THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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FIRST STEP TOWARDS A NEW LONDON

THE proposition now made by the London County Council that a site for the Shakespeare National Theatre should be provided on the south bank of the river between Waterloo Bridge and the Charing Cross railway bridge, is of especial interest as indicating the view that an early start may be expected on the re-development of the south side. The scheme, as formulated in 1943, was assumed to be carried through in three stages, the first covering the area between the London County Hall and Waterloo Bridge, the second to the eastward as far as Blackfriars Bridge, and the third along Bankside to Southwark Cathedral. The removal of Charing Cross Station and substitution of a road bridge here is, for economic reasons, reserved to the second stage.

Our readers may be reminded that the area now offered was from the first assigned to a theatre, together with a riverside promenade and gardens, so that the present proposal is in exact accord with the original intention, based on very definite advantages it possesses for such purposes. It would suffer in its amenities as long as the adjacent railway line remained, but the elimination of this is an integral feature in the London plan. The substitution of a road bridge is very naturally proposed, but the approaches to this present difficulties which have not so far been satisfactorily met; the Victoria Embankment does not offer a good starting level and an additional traffic route out of the Strand so near to Trafalgar-square is undesirable. From the aspect of vehicular movement, the best route would be one from the junction of Long Acre with St. Martin's-lane crossing over the Strand and then dropping down to a suitable level for the bridge. Apart from such a route it is doubtful whether a road bridge is really desirable and the alternative of a wide footbridge could be considered; such a bridge might be covered and have groups of small shops along the sides, as even with these it would obstruct the view to a less extent that the present railway bridge with its deep girders.

To return to the question of the site itself, the area indicated would be ample and the surroundings open and pleasant; a covered connection with Waterloo Station and its tube satellites could easily be provided, which would make the theatre very accessible from the south-western suburbs and other parts of London. The river front would be visible from a long stretch of the Embankment and an impressive architectural treatment is consequently justified; taking these points into consideration, the proposal is deserving of the warmest commendation and would meet the requirements far better than the original one of the very restricted site at South Kensington. There is, moreover a slight link with tradition in view of the fact that many of Shakespeare's plays were first produced at Bankside which, though further east, bears a somewhat similar relation to the London of those days as does this position to the London of the present.

In any case, the proposition must be welcomed as the first step towards the replanning of London, and it encourages us to hope that in the near future it may be possible to record other measures on the lines indicated in the L.C.C. plan and such variations of it as have been contributed by the R.A. and the R.I.B.A. where these have possessed any special merit in enhancing the convenience and dignity of our Metropolis. The comprehensive character of such a programme demands a vast mass of detailed consideration which the conditions have not, up to the present, made possible. Some of this work can be passed on to the Metropolitan Boroughs, but the major features of the plan, which involve the London County area, the City, the populous zone included in the London region and even going outside this, are such as can, as a whole, be handled only by a joint authority representing all the bodies interested and probably established under Government control. Guidance as to procedure is indicated by the work done in some of the major provincial centres, but none of these have yet been carried to finality nor are any so full of complexity as that of London.

So far the economic aspects of remodelling on this scale have not received the degree of attention that is required to enable decisions to be made as to how far, and at what rate, this great task can be carried through towards its ultimate conclusion; a high standard has been visualised, which is all to the good, but the marshalling of resources is as yet hardly begun. Such an investigation extends beyond the prospective advantages as regards the gain in economic efficiency, health and amenity that may be expected, as it must also include the nation's ability, during some period not perhaps capable of definition at the present time, to implement the changes involved. We have been warned that the economic situation demands exceptional industry and activity in every direction if we are to recover from the losses due to the war, and though it would be an added disaster if this were to dishearten us from making the advances recognised as essential to national wellbeing, it is obvious that we must take into account this position in devising the methods to be adopted for the purpose in view. The extent to which the cost of war has been met by public loans encourages the opinion that the more profitable undertakings of peace might be financed by similar means, and that local as well as national patriotism could be directed to the renovation of our cities and their surroundings.

In these columns we have already referred to the idea of holding a Centenary International Exhibition during 1951 in the London area, and suggested that the south bank of the Thames should be organised for this purpose. This might be of material assistance in the replanning that the L.C.C. scheme indicates as needful and would give it a direct appeal to a wider public than would otherwise be the case. Other methods might be evolved which might give certain interests or groups a direct incentive to support this or that feature of the reconstruction plan, while the Government control of the railways should open the way to co-ordinations in the transport system advantageous as regards both economy and amenity.

NOTES AND NEWS

"The Builder" New Year Issue.

THE first peace-time New Year issue of *The Builder*, to be published next week, will be of modest size as compared with pre-war issues, due to the continuing shortage of paper, yet of more than usual interest. An interesting selection of recent architecture will include Mr. Romilly Craze's plans for rebuilding and extending A. W. Pugin's St. George's Cathedral, Southwark; new work at Queen Charlotte's Hospital by Messrs. Stanley Hall and Easton and Robertson; Mr. W. G. Newton's scheme for the Gordon Memorial College, Khartoum; and some recent work for London Transport by Adams, Holden and Pearson. In addition to the usual features, letterpress will include a series of messages from the leaders of the building industry; an article on the "Architecture of Stage and Screen," by Dr. Lanchester; and another on "Prefabrication: Problems and Opportunities," by Mr. Jack Howe. Mr. W. T. Creswell, K.C., examines the copyright position that is created by architects commissioned to repair or rebuild war-damaged buildings designed by other architects. Mr. W. H. Ansell makes a characteristically wise and witty contribution to our series of "Architectural Reminiscences." The price of *The Builder* New Year issue will be advanced to 1s. (by post 1s. 2d.).

L.C.C. Architect.

THE London County Council invite applications for appointment, on a permanent basis, to the position of Architect to the Council, with responsibility also for the duties of Superintending Architect of Metropolitan Buildings. Salary £2,500, rising by £250 after the first and third years to £3,000 a year. Forms of application (stamped addressed foolscap envelope necessary) are obtainable from Clerk of the Council (K), The County Hall, Westminster Bridge, S.E.1. Applications must be returned so as to be received not later than Saturday, February 2.

The International Reunion of Architects.

THE British Section of the International Reunion of Architects met on December 6 at the R.I.B.A. The object of the Reunion is to promote understanding and co-operation among architects, and to set the foundations of a co-ordinated exchange of information which is so vital at present. The following officers were elected: President, Professor Sir Patrick Abercrombie; Hon. Secretary, Mr. Erno Goldfinger; Hon. Treasurer, Mr. F. E. Towndrow. A cordial vote of thanks was recorded to Mr. Howard Robertson, the retiring President. An executive committee and a sub-committee to consider the publication in London of an International Bulletin were set up.

Control of Outdoor Advertising.

MR. LEWIS SILKIN, Minister of Town and Country Planning, and Mr. George Buchanan, Under-Secretary of State for Scotland, on December 19 met representatives of the advertising interests and discussed with them the question of the future control of outdoor advertising. The Minister said the present position was unsatisfactory and existing legislation inadequate. It was his duty to see that the amenities and natural beauty of this country were not destroyed. In carrying out that duty he wished to be just to the advertising industry, and he was hopeful that it would be possible to reach a broad measure of agreement. He had not yet had an opportunity of discussing the question with the Local Authorities' Associations, but he hoped to do so in the near future. The representatives agreed to consult their respective associations with a view to discussing details with the Minister at a further conference early in the New Year.

R.I.B.A. Problems in Design, 1946.

A LIST of R.I.B.A. Problems in Design for the year ending December 31, 1946, is now issued. Copies of the list may be obtained free on application at the R.I.B.A.

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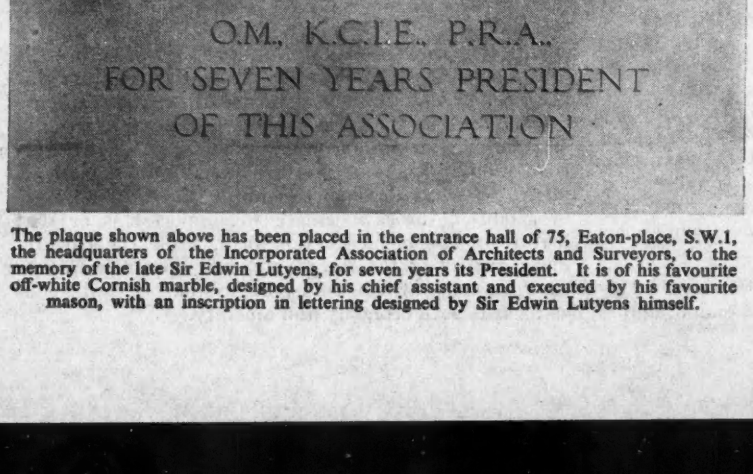


The plaque shown above has been placed in the entrance hall of 75, Eaton-place, S.W.1, the headquarters of the Incorporated Association of Architects and Surveyors, to the memory of the late Sir Edwin Lutyens, for seven years its President. It is of his favourite off-white Cornish marble, designed by his chief assistant and executed by his favourite mason, with an inscription in lettering designed by Sir Edwin Lutyens himself.

City of Manchester Plan: Abridged Edition.

Manchester Corporation have issued an abridged edition of the City of Manchester Plan, 1945. Copies may be obtained from booksellers, price 3s. each, or direct from the publishers, Messrs. Jarrold and Sons, Ltd., the Empire Press, Norwich, price 3s. 3d., post free. The Manchester plan has been fully reviewed in our pages.

Professional Announcements.

MR. PERCY THOMAS, O.B.E., LL.D., P.R.I.B.A., announces that from January 1 he will take into partnership his son, Mr. Norman Percy Thomas, M.B.E., Dip.Arch., A.R.I.B.A., and that the firm will in future be known as Percy Thomas and Son, of 10, Cathedral Road, Cardiff (Telephone: 1380).

MESSRS. PITE, SON AND FAIRWEATHER, FF. and A.R.I.B.A., chartered architects, announce that from January 1 their London office address will be 6, Queen Anne's-gate, Westminster, S.W.1 (telephone: Whitehall 5576), and all correspondence should be addressed there. The branch office at 16, Market-square, Westerham (tel.: Westerham 78), will be retained until further notice.

MR. ALISTER MACDONALD, F.R.I.B.A., chartered architect, is now conducting his professional practice from 46, Lincoln's Inn Fields, London, W.C.2. Telephone: Chancery 5160.

MR. F. J. MEEKINS, F.I.A.S., announces that Mr. Francis L. Rourke, P.A.S.I., will be joining the firm of F. J. Meekins and Partners, Oxford Circus House, 245, Oxford-street, London, W.1, as partner, to take effect on January 1. Mr. Rourke has for some time held the position of superintending surveyor in the firm, and will remain in sole charge of the department that he previously supervised.

MR. HAROLD RIDOUT, F.S.I., chartered quantity surveyor, has taken into partnership Mr. S. C. Wells, a member of his staff. The practice will be continued at its present address, Regency House, 1-4, Warwick-street, Regent-street, W.1, under the title of Harold Ridout and Partner.

MR. M. S. GILUTZ, B.Sc.(Eng.), M.I. Struct.E., A.M.I.C.E., late of Messrs. F. S. Snow and Partners, London, is now practising as a building and civil engineer at 2a, Achad-Haam-street, Tel Aviv, Palestine. Trade catalogues of manufacturers and suppliers will be welcomed.

CAPTAIN R. J. W. CLOUGH, R.E., P.A.S.I., has been released from the Army and is now taking an active interest in the firm of Oppenheim and Clough, surveyors, of 33, Palmerston-road, Southampton, where he will be pleased to receive trade catalogues.

From *The Builder* of 1846.

Saturday, January 3, 1846.

WE deal in honey rather than in vinegar; we are not disposed to wound feelings merely to appear smart, and to depress struggling merit for the sake of showing our taste or superior knowledge of the subject treated. When, however, the interests of the public demand plain speaking, when corruption is apparent, dishonourable conduct exhibited, when public offices are inefficient or unjust, or a charlatan deserves exposure, we will not be deterred from what we may believe to be our duty by consideration for individuals or by any personal fears. *An extract from George Godwin's New Year editorial.*

EXETER PHOENIX

PLAN BY THOMAS SHARP, M.A., P.T.P.I., L.R.I.B.A., FOR THE RECONSTRUCTION AND REDEVELOPMENT OF THE CITY

WE ARE DELIGHTED!

A first examination of Mr. Sharp's suggested plans for the rebuilding of Exeter has assured us all that it has been a labour of love for him, for he has evolved a "human" plan, and no academic essay upon the drawing-board.

With these preliminary words, I would put to the general public, who do not know their Exeter, a brief description of its natural features, its importance as a gateway to the West, and its cultural traditions. Whether Exeter had been assailed by the wrath of war or not, it is an undoubted fact that its position, as the junction of the main roads to the whole of the counties of Devon and Cornwall lying to the west, would have necessitated a most drastic remodelling to do away with the bottlenecks of narrow streets and steep gradients which precluded a normal flow of traffic through its centre; in fact, it has been shown that it has taken a car, in the old days, three hours to travel two miles through the City. I would add that the present plan of Exeter is a most complex one, of narrow and intertwining small streets wedged in between the old main straight artery of the High-street, the red stone Rougemont Castle on its hill, and the grey encloistered Cathedral in its green setting. There seemed, in fact, to be no reasonable method of or plan possible for the simplification of its traffic and transport problems without the most drastic re-designing.

As a centre of Markets, Education, and Culture, Exeter's position is remarkable, for it is ideally placed geographically, drawing its produce, its personnel and its public from a wide and rich country, supplied by two main railway lines. And yet, Exeter never did sufficient honour to its resources in architectural expression, and save for the old Market in Queen-street and the New University Buildings it was singularly expressionless as far as its local government, museum buildings, art schools and such-like were concerned, its public halls and theatres being negligible.

Now, however, we can turn to its present position, assailed by a short attack in 1942 of but an hour or so; so much was destroyed for which our generation must be grateful, and so much of beauty was retained, that Mr. Sharp's problem called for the most personal and individual handling.

During the last few decades of its development, an immense stretch of surrounding country was engulfed, like so many of our great cities, but as Mr. Sharp has pointed out, the position is not irreparable, and there is still "hope for Exeter." He has now converted that hope into a certainty, if these plans are carried out, for he has created a series of drawings which convince the onlooker of the inevitability of its planning. This is no academic, drawing-board conception, relying upon those inhuman vistas, those balanced sweeps of roads and formal squares, which seem to be the joy of planners, especially where the development lies stretched out on flat and uneventful land. By a few bold strokes he has utilised its contours to vast advantage. He has in measure isolated the old City by emphasising the ancient boundaries of the City walls, and has created a green moat around the City centre. He has linked the old city with the new at two points, marking the positions of the old East-gate and Southgate with two important squares.

Within the ancient boundaries he has been careful to show a most refreshing conservation of scale in the new buildings to be placed alongside the old, and he has most wisely suggested that all development outside that area should be expressive of the age in which we live. He has opened up a vista to the west end of the Cathedral, now obscured by a monstrous and redundant Church of St. Mary Major, which will be utterly removed. He has suggested that the Cathedral precincts shall be kept intimate and quiet, and that the greatest care shall be taken as to the height of buildings in the neighbourhood so that the importance of the Cathedral's silhouette may be maintained. He has not widened the old High-street to take the main flow of traffic to the west but has boldly swept round a bye-pass road from East-gate-square to pass below the charming Rougemont Castle grounds, over the roof of the Central Station, and carrying in a gentle curve and with only a slight gradient down the narrow valley that at length emerges on the flat land by the River Exe. Nature has helped him here, and he has made her his friend, for no simpler method of carrying a vast stream of traffic through a green belt of open beauty to the further end of the city, unobstructed by cross traffic arteries, could have been devised.

This bye-pass road will, as has been said, pass the Central Station, and will serve as direct access for the new bus station, built upon the site of the existing Rougemont Hotel and served by a subway from the station itself, so that no longer need the harassed and laden farmer's wife cross a busy street and stand in the rain on her way home.

One of the outstanding features of old Exeter was its houses of the Georgian and Regency eras, and Bedford Circus was a group of these; but since it has completely gone, Mr. Sharp makes no suggestion that it should be rebuilt, whereas he wisely suggests that another Georgian feature in "Dixie's Field" should be retained and developed and reconditioned in its traditional manner.

The space released by the total destruction of Bedford-circus has given him the most valuable space within the walls for redevelopment as a shopping centre, and here he has proposed a new shopping street with a vista to the North Tower of the Cathedral.

It was to be expected that the making of a new bye-pass would inevitably require the demolition of some buildings, and somebody's corns will be trodden on. But I feel convinced myself that the Rougemont Hotel, the Co-operative Stores and the old Theatre are none of them so imbued with beauty that we shall regret their loss if a better Rougemont Hotel, Co-operative Store and Theatre can be built. They are the martyrs to the good cause. Mr. Sharp has been wise in the retention of old Southernhay and the non-accentuation of its tree-lined road for traffic purposes, so that one feels sure that the professional class and the Cathedral folk will have no grumbles to make. I think also that the business of the city will be happy, for Mr. Sharp has not only retained the intimate character of the city within the walls with its generations of old traders but has given fine access to the newer shopping centre of St. Sidwell's, where almost unrestricted opportunity will arise for businesses on a large scale.

The greatest urgency in the public mind will be, of course, with regard to the provision of houses, and Mr. Sharp has shown possible access to the surrounding districts of Heavitree, Polsloe, Wonford and many others, by the completion, accentuation and adjustment of major ring roads, leading in their turn to the city by direct access.

There is no idea of making Exeter a vast new city, and even a possible additional population of 20,000, as suggested by Mr. Sharp himself, would seem to be excessive. But we have to remember that in that short, sharp attack by the Germans, Exeter lost some 400 shops, 150 offices, 50 ware-

COMING EVENTS

Monday, January 7.

GAUGE AND TOOL MAKERS' ASSOCIATION. Exhibition to be opened by Mr. John Wilmot, M.P. (Minister of Supply), New Hall, Vincent-square, S.W.1. 11 a.m.

CHARTERED SURVEYORS' INSTITUTION. Junior Central Committee Meeting. 12, Great George-street, S.W.1. 11 a.m.

Mr. H. G. May on "Town Planning Interim Development and the Repair of War Damage." 12, Great George-street, S.W.1. 5.30 p.m.

Tuesday, January 8.

INSTITUTION OF CIVIL ENGINEERS. Mr. C. T. Mitchell on "Some Economic Aspects of Modern Earth-Moving Equipment." Great George-street, S.W.1. 5.30 p.m.

ARCHITECTURAL ASSOCIATION. Mr. Richard Sheppard and others on "Schools." 36, Bedford-square, W.C.1. 6 p.m.

Wednesday, January 9.

LONDON SOCIETY. Visit to Exhibition of Sculpture from Westminster Abbey. At V. and A. Museum. 2.30 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. Mr. S. C. Mount on "A Factory in a Railway Tunnel." At Mechanical Engineers, Storey's-gate, S.W.1. 6 p.m.

Thursday, January 10.

TOWN AND COUNTRY PLANNING ASSOCIATION. Dr. G. Scott Wilkinson on "Health Centres." 28, King-street, Covent Garden. 1.15 p.m. (buffet lunch, 12.45 p.m.).

Friday, January 11.

R.I.B.A. Opening of Two-day Conference on "Human Needs in Planning." Subjects: "Housing Requirements and Population Studies" and "Grouping of Homes in Relation to Work Places and Institutions" (Friday); "The Social Function of Towns and their Place in the Region" and "Social Relationships and Territorial Grouping in Towns and Countryside" (Saturday). 66, Portland-place, W.1. 10.30 a.m. (each day).

INSTITUTE OF WELDING. Mr. R. W. Ayers on "Developments in the Technique and Use of Resistance Welding." James Watt Memorial Institute, Birmingham. 7 p.m.

houses, 1,500 houses totally destroyed and another 2,700 badly damaged—a matter of the destruction of some 45 acres—and to reinstate this number, placing them in their new settings, houses and factories with their especial amenities of direct access and suitable situation, has been a problem most sympathetically handled.

I see so much more of the architect in this plan than of the engineer, so much more of the great and understanding artist than the one-sided economist, that I could wish that some other cities could and would take the hint that the new drawing-board plans possess something inhuman about them, something hard and theoretical that will make for unhappiness in the future, unless they unbend a little and take a lesson from Mr. Sharp's Exeter.

I would point out most particularly that in the central area the deficiency in public and semi-public buildings in the old days has not been remedied by the usual method of a block concentration giving the impression of a great civic centre; Mr. Sharp has distributed these at salient and suitable points. One group, including new police buildings and municipal offices, are suggested for the top of Southernhay; a large public hall has been suggested at the junction of Paul-street and Goldsmith-street, whilst the County Council offices retain their hold of the Castle premises. His major bus traffic roads, away from the business of shops, will never necessitate a journey of much more than a hundred yards on foot, and the distribution of interests will make for a city of continual diversity.

It is to be regretted that Mr. Sharp's book of Exeter, which he has called "Exeter Phoenix," will not be available to us all for a few weeks, so that we are not in possession of the multiplicity of detail, the statistics and meticulous arguments which all make for the conclusions to which he has come. We are, however, given immense pleasure, a stimulation of interest—excitement even—and great hope from the excellent plans and quite beautiful perspectives of the city as drawn by Mr. Webb. I therefore end with the words with which I began: "We are delighted!"

PHILIP TILDEN.

R.I.B.A.

Membership.

ON November 13 the following members were elected :—

As Fellow: W. B. T. Newham (Pretoria, South Africa). As Associate: V. N. Cook (Johannesburg, South Africa).

On December 11 the following members were elected :—

As Hon. Corresponding Member: J. R. Edmunds, Jun., B.Sc.(Arch.) (Baltimore, Maryland, U.S.A.).

As Fellows (12): T. Burrington (Wiltshire), L. M. Evans (Loughborough, Leicestershire), O. Fleming (Westerham, Kent), R. O. Harris (Taunton, Somerset), R. McGrath, B.Arch. (Sydney) (Monkstown, Dublin), C. C. Shaw, B.Arch(Liverpool) (London, N.1), J. R. M. Simpson (Sandon, Essex), E. Britton (Redland, Bristol), D. L. Lasdun, M.B.E. (London), W. R. Maxfield (Abbots Langley, Herts), J. Perkins (Northampton) and Lieut.-Col. R. T. Perry (Winterbourne, Glos.).

As Associates (18): L. W. Baker (Birmingham Sch. of Arch.), J. L. Berbiers (Univ. of Liverpool), W. V. Boyle, B.Arch. (Univ. Coll., Dublin), W. J. Cantwell, B.Arch. (Univ. Coll., Dublin), A. Critchlow (Final) (Balderstone, Lancs.), P. M. Delaney (B.Arch.N.U.I., Univ. Coll., Dublin), F. H. Hilton, B.Arch. (Univ. Coll., Dublin), T. A. Houston (Edinburgh Coll. of Art), H. S. Howgrave-Graham (Final) (London,), J. P. Jackson (Univ. of Liverpool), E. A. Johnson, Dip.Arch. (Leeds) (Leeds Sch. of Arch.), R. N. Jones, Dip.Arch. (Liverpool), Dip.C.D., J. A. Kemp, Dip.Arch. (Leeds) (Leeds Sch. of Arch.), J. C. Loyd (Final) (Bearstead, Kent), A. McWilliam (Edin. Coll. of Art), F. Peatfield, Regent-street Poly., F. D. L. Reed (Special Final Exam.) (Aylesbury, Bucks), Major G. M. Watt, M.B.E. (Aberdeen Sch. of Arch., Robert Gordon's Tech. Coll.).

As Licentiates (14): L. P. Collins (London), R. W. Ferguson (Romford), J. Fletcher (Preston), G. Gibson (Paisley), J. S. Houston (Glasgow), B. F. Kirby (Little Clacton), J. L. Kite (Andover), J. M. Mitchell (Arbroath), J. Moffitt (Newcastle, Northumberland), G. H. Morris (Coventry), C. W. Pearce (London), J. M. Surman (Oxford), J. H. Swann (Belfast), W. J. Triggs (East Horsley).

Examination for Diploma in Town Planning.

At the examination held in July, 1945, the following were successful and have been awarded the R.I.B.A. Diploma in Town Planning: Clark Fyfe, William Thomas Glare, Peter S. Leask, John Stevenson, Alfred E. Williams.

Examination for the Office of Building Surveyor under Local Authorities.

At this examination, held on May 2, 3 and 4, 1945, six candidates presented themselves and the following were successful: Percy Fletcher, Robert D. Jee, Arthur Wright.

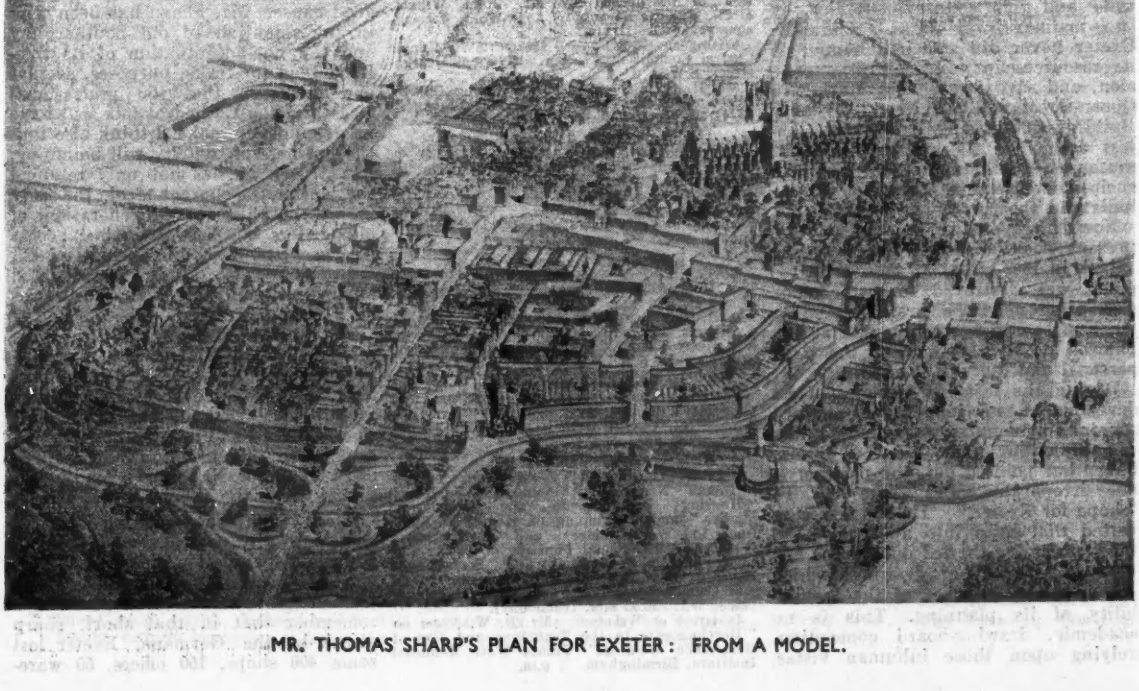
OBITUARY

Henry Elwig, F.R.I.B.A., J.P.

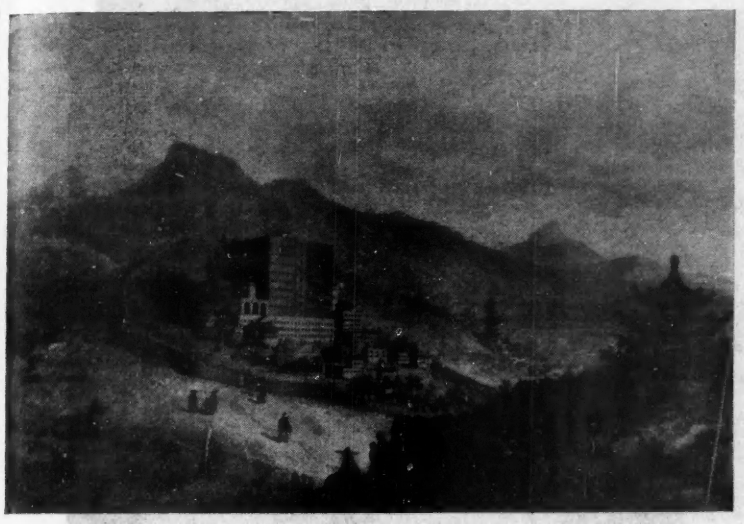
We regret to record the death, on December 29, at Tunbridge Wells, of Henry Elwig, F.R.I.B.A., J.P. Mr. Elwig, who was born in 1868, devoted his working life to architecture and public service. His was a varied practice, his buildings including Princes Hotel, Hove, several country houses, religious and public buildings, schools and factories, and the War Memorial Institute, Frant (won in competition). He did a good deal of work in connection with Local Government Board inquiries and also in arbitrations. He was an alderman of the Borough of Tunbridge Wells, and had been chairman of several committees.

F. W. Chancellor, M.A., F.R.I.B.A.

We regret to announce the death, at the age of 80, of Mr. Frederic Wykeham Chancellor, M.A.(Oxon), F.R.I.B.A. Mr. Chancellor had held for many years the appointment of Surveyor to the Diocese of Chelmsford.



MR. THOMAS SHARP'S PLAN FOR EXETER: FROM A MODEL.



POO-TA-LA, OR GREAT TEMPLE OF FO, NEAR ZHEHOL, CHINA
From the water-colour drawing by William Alexander.

"NOTHING NEW UNDER THE SUN"

A CORRESPONDENT WRITES: Walking around the exhibition of British water-colour drawings at the Victoria and Albert Museum, South Kensington, my eye was caught by the extraordinary picture which is here reproduced. Extraordinary for two reasons—its date, and the type of architectural design it portrays. Apart from the miscellaneous small structures around it, here is a building of eight storeys of brickwork rising sheer from a stone-faced base of three storeys. It might well be a block of flats or a modern office building in London or New York. How often we have seen a treatment like this, with staircase and lift well up the centre of it, and a flat roof. Yet this drawing was made in China more than 150 years ago! Truly, "the thing that hath been, it is that which shall be, and that which is done is that which shall be done: and there is no new thing under the sun" (Ecclesiastes i. 9). The drawing in question is one of a series of Chinese subjects by William Alexander, who, when he was 29, went as a junior draughtsman with Lord Macartney's Embassy to China in 1792—the first Embassy from the King of England to the Court of China. All the drawings illustrative of the expedition were made by him, and some of them were published in Sir George Staunton's account of the Embassy in 1797. William Alexander became the first keeper of prints and drawings in the British Museum, to which post he was appointed in 1808. He died in 1816. This date brings us back to the building here shown. The only parallel to anything of the kind in the past is seen in the Tibetan monasteries, and especially in the Potala—the Dalai Lama's Palace of Lhasa; but that has only six storeys above a base of three storeys, with long staircase ramps leading up to it. That building was erected about 1650. When Poo-ta-la, the great Temple of Fo, was built, there is no telling; but even if it were brand new when Alexander drew it, that would anticipate the modern office building by a century and a half.

By way of supplement to this note, it is pertinent to give the following extract from the book on China by Harold E. Gorst: "Buddhism was introduced into China in the first century of the Christian era, from India. The name Buddha was changed by the Chinese to that of Fo, and the new religion rapidly gained ground. The divinity of Fo was conclusively proved by the fact that his mother, during the period before his birth, was perpetually dreaming that she had swallowed an elephant. The result of these dreams was, as might have been supposed, a remarkably fine boy, who turned out to be unusually precocious, for immediately after his first appearance he took seven steps forward and exclaimed: 'In heaven and on earth I alone am worthy to be adored.'"

National Physical Laboratory

MR. F. H. ROLT, M.B.E., B.Sc., A.C.G.I., M.I.Mech.E., has been selected for the appointment of Superintendent of the Metrology Division of the National Physical Laboratory, with effect from April 1, 1946, on the retirement from that post of Mr. J. E. Sears, C.B.E., M.A., M.I.Mech.E.

NEW YEAR HONOURS

AWARDS TO THE BUILDING INDUSTRY

THE first portion of the New Year Honours list, published on Tuesday, contains the names of several distinguished figures in the building industry. Well-merited knighthoods go to Mr. T. P. Bennett, F.R.I.B.A.; Mr. F. C. Mears, F.R.I.B.A. (President of the Royal Scottish Academy), and to Mr. Percy Thomas, P.R.I.B.A. Mr. Bennett's services as Director of Works have been of great value to the Ministry of Works during the war, and much of the experience he has gained has been given to the industry in the notable series of lectures recently given to the University of London. His organising and negotiating powers have been more recently recognised by his appointment as Chairman of the Tripartite Working Party for the Boot and Shoe Industry. Mr. Thomas, in addition to his sterling leadership of the R.I.B.A., his second term of office, has found time to act as Regional Commissioner for South Wales. Their honours are well deserved, as is also the knighthood conferred upon Mr. Gerald Lenanton, director of the Home Timber Production Department, Ministry of Supply.

C.B.E.s go to Mr. G. W. Buchanan, Mr. C. T. Every, Mr. A. W. Kenyon, F.R.I.B.A., Mr. J. M. Collie (City Engineer, Sheffield), and Mr. J. Paton Watson (City Engineer, Plymouth). Mr. Buchanan has done yeoman service during his term of office, shortly to end, for the National Federation, and for ten years past for the N.J.C. Mr. Every has made an imaginative contribution to the future of the industry in his capacity as Director of Post-War Building Programmes, Ministry of Works. Mr. Kenyon, as designer of the Portal house and of much other wartime housing, has been the inspiration of many subsequent developments in the field of prefabricated housing.

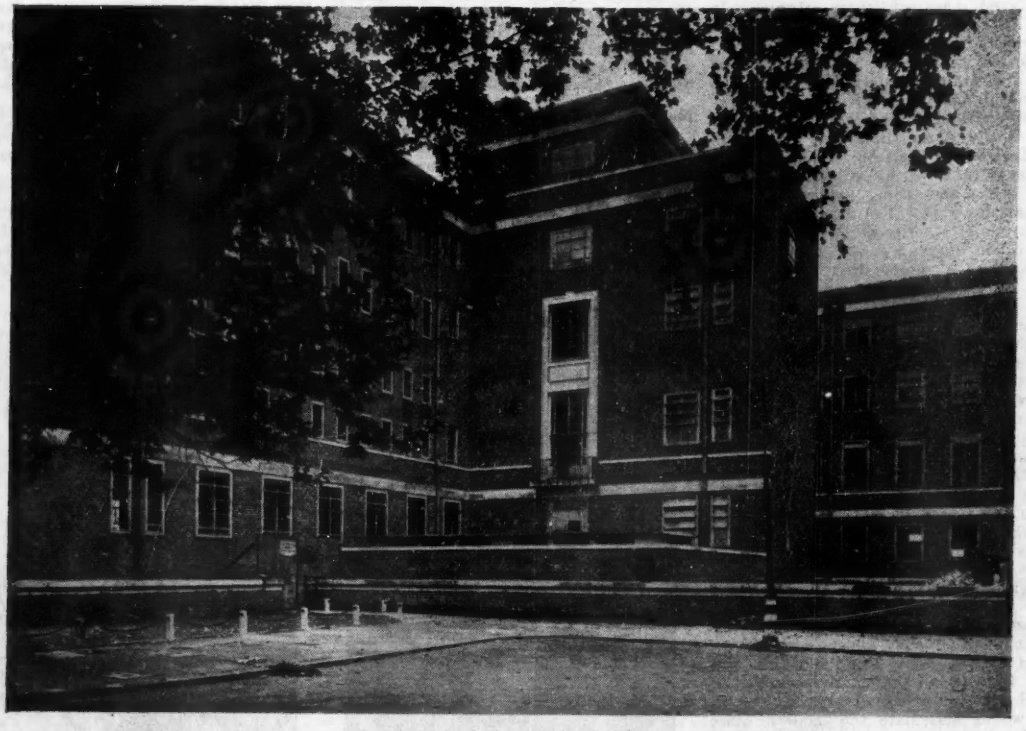
We offer to all these our congratulations on behalf of the industry and ourselves. In a more personal connection we note with pleasure the conferment of a Viscountcy upon Lord Southwood, Chairman of Odhams Press Ltd., printers of *The Builder*, for his great services in connection with the Red Cross Penny-a-week Committee of the Duke of Gloucester's Fund.

MR. PERCY E. THOMAS, P.R.I.B.A.
(Created a Knight)

MR. T. P. BENNETT, F.R.I.B.A.
(Created a Knight)

SOME AWARDS IN THE NEW YEAR HONOURS LIST.

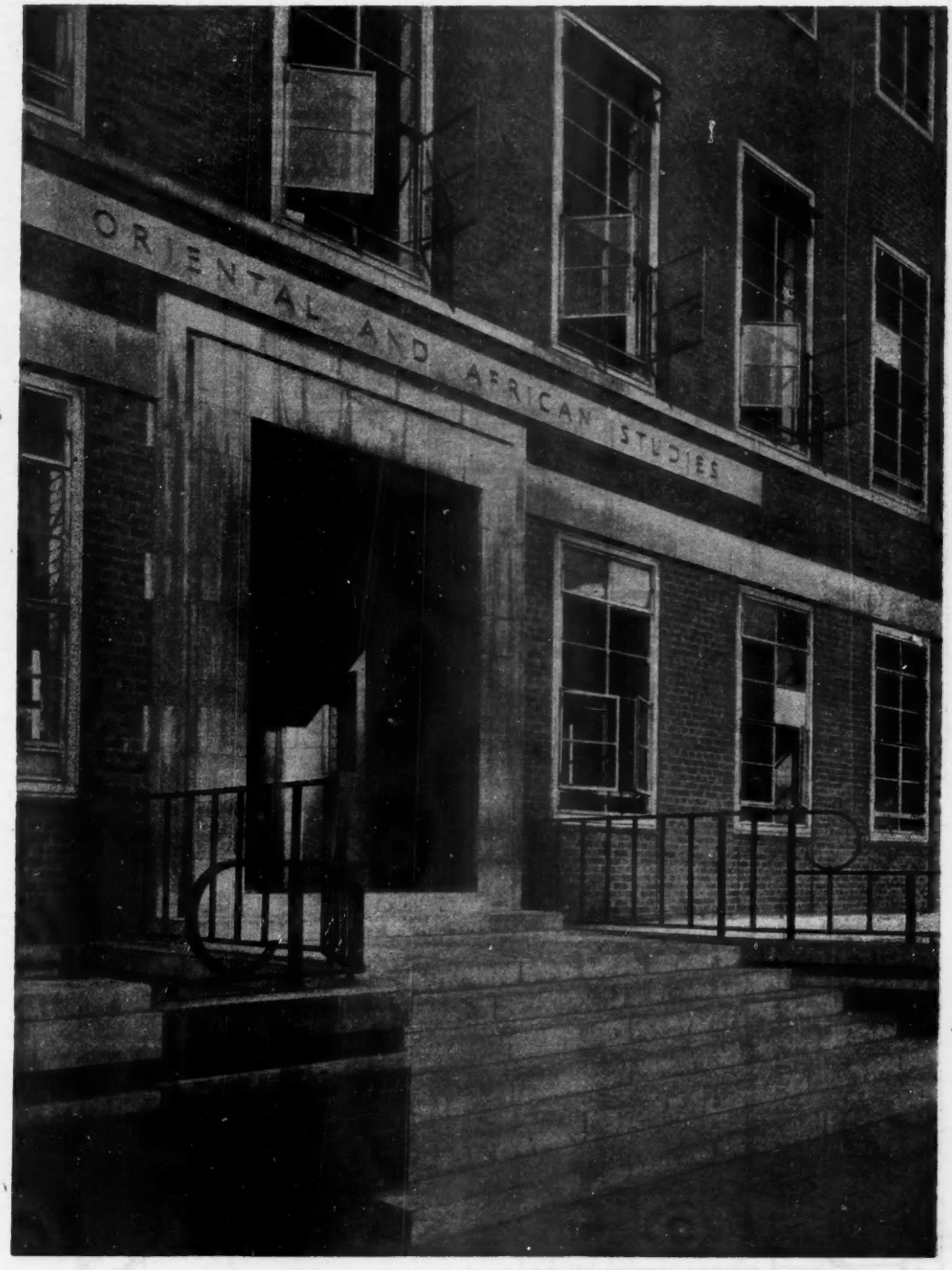
VIEW FROM SOUTH-EAST.



THE NORTH FRONT.

SCHOOL OF ORIENTAL AND AFRICAN STUDIES, LONDON UNIVERSITY

ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS.



THE MAIN ENTRANCE.

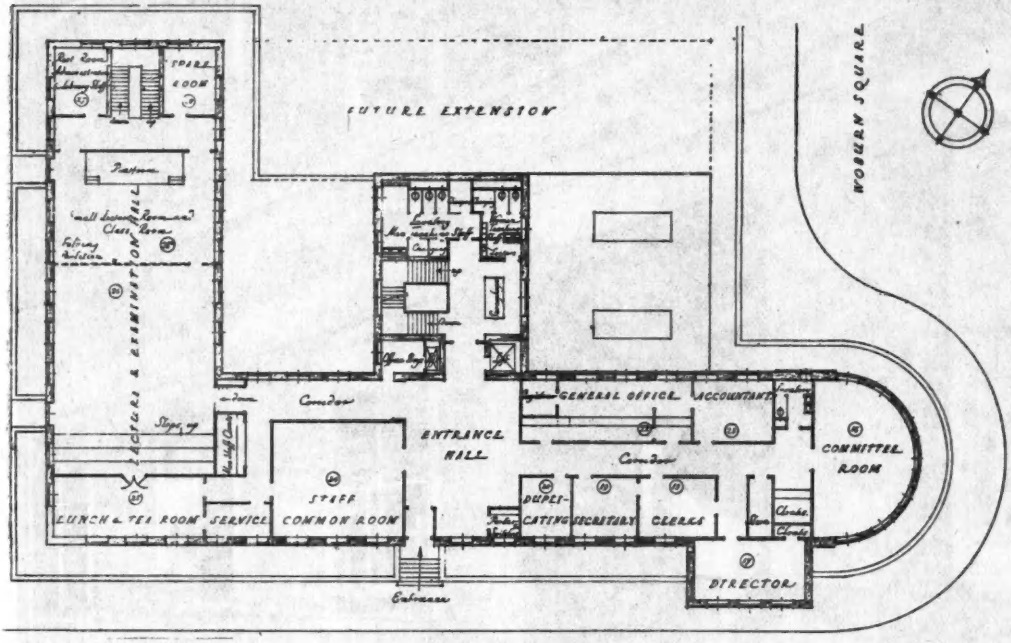
SCHOOL OF ORIENTAL AND AFRICAN STUDIES, LONDON UNIVERSITY

ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS

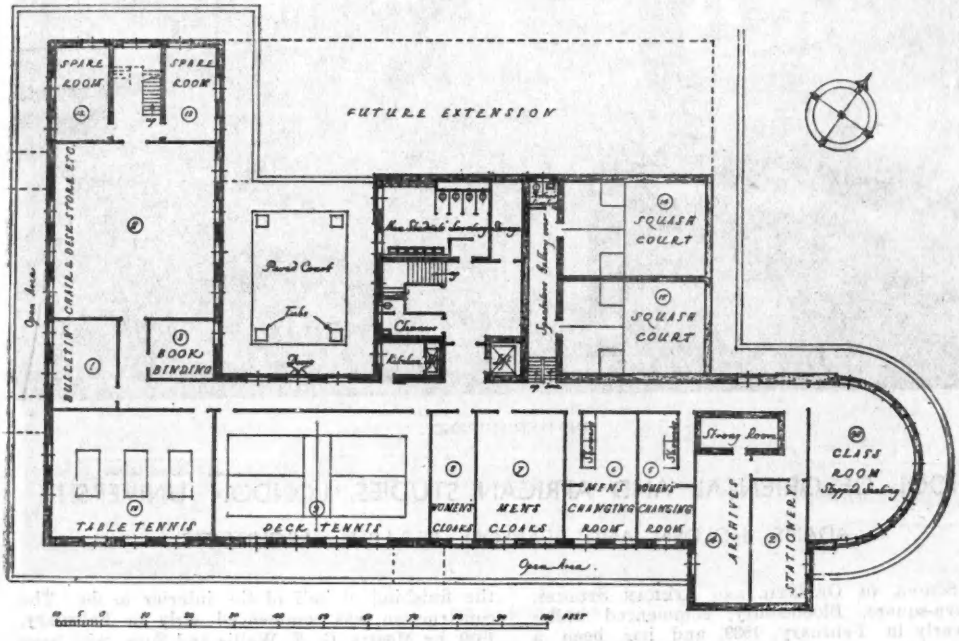
THE SCHOOL OF ORIENTAL AND AFRICAN STUDIES, Woburn-square, Bloomsbury, commenced building early in February, 1939, and has been a victim of the war. The finishing was held up for a time, and even now, although 75 per cent. of the building is occupied by the School, there is still the finishing of half of the interior to do. The construction was commenced early in February, 1939, by Messrs. G. E. Wallis and Sons, who have done as well as possible under the circumstances. They were also responsible for the retaining wall around the site. Messrs. Dorman Long and Co.,

Ltd., were responsible for the steelwork, acting with Messrs. R. Travers Morgan and Partner, who were the consulting engineers.

The general construction is a steel frame filled with brick and stone, multi-coloured bricks being used for the facing and hard stocks for the interior. A feature of the facing on the work is the bond which is called the "Blandford" bond, and is composed of two courses of stretchers to one course of headers. The use of the closers on the face is almost but not entirely omitted. The omission of the course of headers used in the old English bond gives the face a much better appearance and does not affect the strength. The mortar used was made with hydraulic lime and sand, gauged 3 : 1. The areas were tiled. The heating is on the ceiling panel system embedded in the concrete or walls, served from a heating chamber which will be shared with the Birkbeck College when built. The pipes are run under the floor in ducts covered by iron trays, and filled with whatever material is used for the floor. The rainwater heads are in cast lead.



GROUND-FLOOR PLAN.

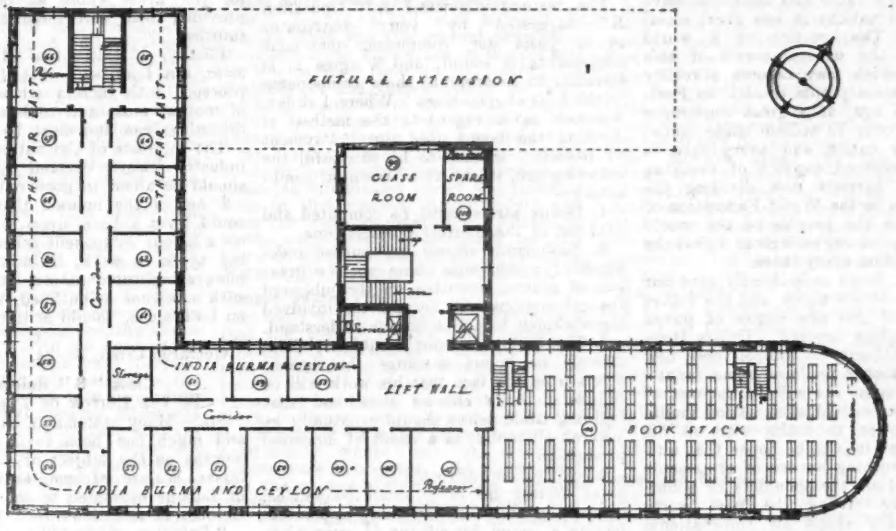


LOWER GROUND-FLOOR PLAN.

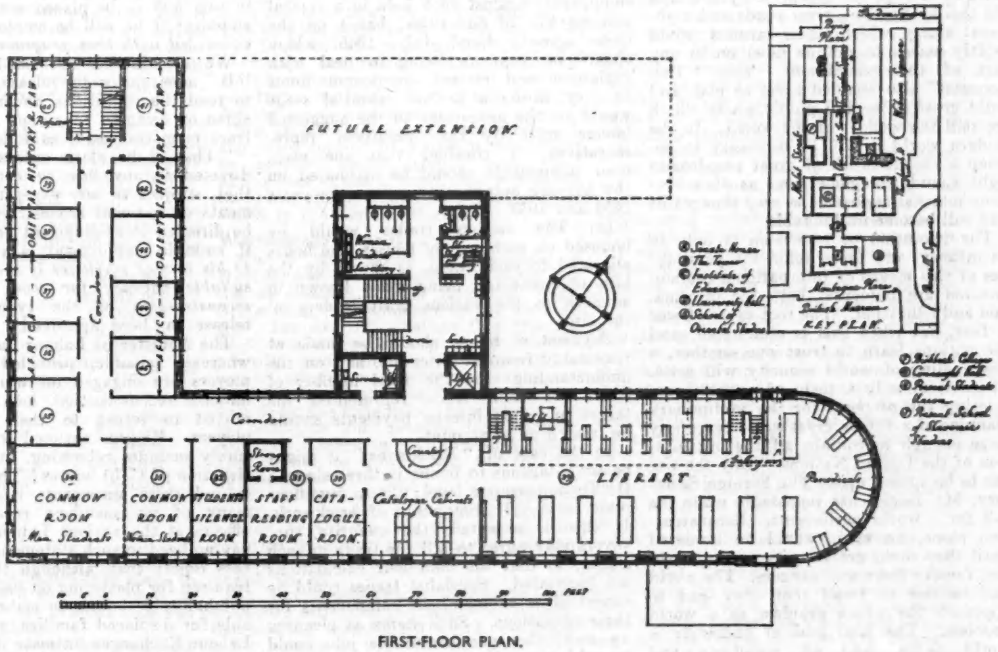
SCHOOL OF ORIENTAL AND AFRICAN STUDIES, LONDON UNIVERSITY

Casement windows are fixed in wood frames made by the general contractors. Doors are flush, teak veneered. Flooring generally is in wood blocks, though part is laid in "Korkoid." The main staircase is reinforced concrete construction with 1 in. Biancola finish studded on the nosing, laid by Art Pavements, Ltd. The floor of the ground floor entrance hall was laid in polished Hopton Wood stone tiles 19 in. square, supplied and laid by the Hopton Wood Stone Co. Polished Hopton Wood stone is carried all round the hall from floor to ceiling. All lavatories have a white tile dado 8 ft. high with red Adamantine tile floors.

Following is a list of sub-contractors and specialists: Isteg, Ltd., reinforcing bars for retaining wall; Ames, Ltd., facing bricks; Eastwood's, Ltd., hard stocks; Leeds Fireclay Co., area tiles; Telling, Ltd., plastering; Carter and Co., Ltd., wall tiling in lavatories; Richard Crittall, panel heating; Haywards, Ltd., trays for covering heating ducts; Stoner and Saunders, rainwater heads; Henry Hope and Sons, casement windows; T. and W. Ide, glazing and vertical lights; Bolding, Ltd., sanitary fittings; Haggis, Ltd., flush doors; Acmé Flooring Co., wood block flooring; James Gibbons, door furniture; Waygood-Otis, Ltd., lifts; Chubb Lock and Safe Co., Ltd., strong room doors; H. H. Martyn and Co., Ltd., fences and gates; Lenscrete, glass roof lights over squash court; Tyler and Freeman, electrical installations; J. R. Pearson, Ltd., staircase balustrade.



SECOND-FLOOR PLAN.



FIRST-FLOOR PLAN.

ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

World Reconstruction.

To the Editor of *The Builder*.

Sir,—Building and architecture are essentially the arts of peace and cannot flourish in an atmosphere of hatred and war. World reconstruction can only take place in a world freed from the danger of war, so the importance of this question is vital to all our efforts to create the better world in future.

Almost every economic and political problem arising to-day must be considered as international. Aviation has annihilated frontiers, while radio and television have linked up all nations in one great social community. The creation of a world authority is the natural result of this movement, which may become a reality sooner than some people think. In Paris a few weeks ago, at a great conference representing over 70 million trade unionists of every nation and every race, a unity was achieved capable of breaking through the barriers now dividing the nations. Thus in the World Federation of Trade Unions the peoples of the world have a weapon strong enough to defeat the forces of reaction everywhere.

The atomic bomb undoubtedly gave our civilisation a severe shock and the future potentiality of this new source of power cannot be lightly ignored. Unless there is a world authority to control these new discoveries, sooner or later some fanatic will try to impose his will on the rest of the world. No individual or nation should have the power to make war on his neighbour, and it is to be hoped that ultimately the crushing burden of armaments will be lifted off the shoulders of suffering humanity. When the new world authority takes shape an International Police Force will be essential to maintain international law.

The ancient Roman Empire kept the peace of Europe for nearly 400 years, and did this by building great roads and highways along which their armies could swiftly march to subdue rebellion in any part of their dominions. This "Pax Romana" also enabled them to plan and build great cities and public works which are still the wonder of the world. In the modern world it will be necessary to develop a vast network of great aerodromes right round the globe, and as these become internationalised the very thought of war will become unthinkable.

The invention of television is only in its infancy, and there again the possibilities of this means of international communication are immense, both for information and education. The root cause of war is fear, but when this is eliminated, and the nations learn to trust one another, a new feeling of world security will arise. There is already a team of experts considering the proposal for the preliminary planning of a future great world peace city large enough to contain all the organisation of the United Nations. Only the site has to be agreed upon. The Foreign Secretary, Mr. Bevin, has repeatedly made the call for a world parliament. Reconstruction plans, he said, would be hindered until they could get security in the world and remove fears and dangers. The world had become so small that they had to approach the whole problem as a world problem. The final goal of humanity is world peace, and all architects and builders are in the front rank of peacemakers.

Judex.

Payment by Results.

To the Editor of *The Builder*.

Sir,—Having for a long time been convinced that there is something basically wrong with the present system whereby building trade workers—irrespective of their productive capacity or skill in craftsmanship—receive a level wage, I venture to put forward a "Payment by Results" scheme which I suggest should first be applied in a simple form to house-building.

It will clearly be necessary to develop the scheme so that it may apply to other types of building work, but I am optimistic enough to believe that any scheme which proved a success on housing work would be capable of adaptation to most other forms of work.

The method—described as "Operation X"—suggested by your contributor as a basis for computing man-hour components is sound, and I agree it is essential to incorporate these components in the bills of quantities. Where I differ, however, is in regard to the method of dividing the bonus; for any "Payment by Results" scheme to be successful the following are, in my view, essential conditions :—

1. Bonus earned must be computed and paid out in the shortest possible time.

2. Each trade should be bonused independently; otherwise there will be great loss of general incentive on the job, and the calculations will become too involved for workmen to appreciate or understand.

3. The building owner should not share directly in bonus earnings; his benefit arises from the fact that his work will be completed in a shorter time and that building trade prices should eventually be lowered all round, as a result of increased production.

I visualise and advocate :—

(a) Setting up of a small committee, comprising builders (nationally appointed) having a sound knowledge of estimating, with representatives appointed by the Surveyors' Institution. This committee would, in the first instance, fix man-hour components against each item in a typical housing bill of quantities, based on the Code agreed, dated July, 1945, which should be kept in being to deal with variations and revised component items as they arise; a further essential stage would be the agreement to the suggested labour units by the operatives' representatives. I consider that the man-hour components should be estimated on the average output obtained in the years 1938 and 1939.

(b) The various trades would be bonused on each pair of houses, the hours allocated to each trade, as shown by the bills of quantities, being made known in advance to the various craft leaders on the site.

Payment of bonus should be made at reasonably frequent intervals, and on the understanding that the total number of hours for each trade represented the target and that interim payments should be treated as on account.

In the case of "Bricklayer" it might be advantageous to bonus in three stages : (1) To dampcourse level; (2) to first-floor plate level; (3) completion of brickwork. If this is accepted, the quantity surveyors may agree to bill the trade in such stages, so that the man-hour calculations are facilitated. Specialist trades could be consulted as to man-hour components for their operations. Such items as cleaning up and other non-measurable jobs could be subject to site agreement.

(c) Bonus to be divided in the proportions of two-thirds to the worker and one-third to the employer. It has been contended by some that operatives should receive the whole of the bonus, but this would almost certainly add to costs, rather than reduce them, as the employer would be left to pay for the cost of bonusing and also any losses in respect of those operatives whose output did not reach the target. It is only by efficiency on the part of the employer that operatives have the fullest opportunity of earning bonus; therefore, mutual co-operation and mutual benefit must be aimed at, if the experiment is to be a success.

Another point here is that the employer must be encouraged to aim at the highest degree of efficiency in organisation; thus there would probably be a tendency for the better operatives to prefer working for the firms whose all-round efficiency provided them with bonus-earning opportunities.

Finally, I realise that difficulties will arise, but I am sure that if the industry proceeds with such a scheme on a basis of mutual trust and understanding these difficulties can and must be overcome.

The interests of the nation—and of our industry—clearly demand that high wages should be allied to good output.

I am of the opinion that this scheme could form a basis upon which to build up a labour component schedule for varying types of work, including those of a more complicated nature, and I feel that such a scheme as outlined, with good will on both sides, should achieve this object.

E. F. Burrows.

Gerrards Cross, Bucks.

Class "B" Releases.

To the Editor of *The Builder*

Sir,—Many statements have been made and much has been read during recent months on the subject of Class "B" releases. We are informed that the Ministry of Labour intimated to the L.M.B.A. on October 11 as follows :—

"Releases of building workers under Class 'B' are for the purposes of expediting the housing programme. The arrangements already provide for a man released in this way to be placed with his former employer if he will be employed on work *connected with that programme.*"

We are further informed that Class "B" men, prior to release, are invited to read the conditions under which they agree or disagree to accept release. Extract from this reads as follows :—

"That if he elects release he can be directed to any firm or contractor, but that, subject to any exceptional requirements of national reconstruction, he will be directed to employment near his home, if suitable employment is available, and *to his former employer if the latter has a suitable vacancy for work of national reconstruction* of the type for which release has been approved.

The Minister of Labour has stated that wherever possible, provided former employers are engaged on work of urgent national reconstruction, men will be permitted to return to their former employers. Urgent national reconstruction surely includes rehousing, such as reconstruction of C (b) houses? The implication behind these statements is obvious, but many of my members report that the officers at the various Labour Exchanges pay no heed to such statements. My members report that, although these men are required for plastering on badly "blitzed" uninhabitable houses to make them habitable for displaced families, the officers at Labour Exchanges intimate that all directions are issued from headquarters, and applications by individual employers for former employees cannot be considered,

notwithstanding submission of supporting documentary confirmation that these men will be employed on work of "national reconstruction,' and, in many cases, work in the borough in which they live. Is it not time that all connected with the building industry, both employer and employees, insisted on common-sense compliance with, and less red tape in relation to the interpretation of, both the written and verbal promises made by various Ministers and officers controlling their Ministries?

P. A. JAMES,
Secretary,
London Master Plasterers' Association.

IN PARLIAMENT

Special Repair Service.

MR. BOSSOM asked the Minister of Works the number of men employed in the Government's direct building labour force, known as the special repair service, on July 1 and December 1 last; what expansions he was contemplating in this or any other directly employed mobile building force; and what special rates of pay, allowances or holiday privileges are accorded to this force which is not employed by ordinary building trade operatives.

MR. TOMLINSON said that apart from Service personnel, transport drivers and others attached to the Special Repair Service there were 4,389 building trade operatives employed in that service on July 1 and 3,623 on December 1. Members of the Special Repair Service were paid wages, travelling and lodging allowances in accordance with the agreements laid down by the National Joint Council for the Building Industry, subject to the payment of the Grade A rate as a minimum. An additional lodging allowance of 1s. per night is paid to men who are sent away from home for less than six nights, and a further 2s. 6d. per night to men who have to maintain their homes in one area and retain lodgings in a second, while they were sent to a third for a brief period. One day's holiday with pay was given for every six weeks of service as compared with six days per annum under the industrial agreement; and in the case of sickness, National Health Insurance benefit was made up to full pay for four weeks in any one period of 12 months, after three months' service. He was at present in consultation with the employers' and operatives' organisations as to the future of this service.

Brick Production.

In reply to COL. WIGG, MR. WILSON, Parliamentary Secretary to the Ministry of Works, said that information as to pre-war production of bricks was not available, but sales in 1938 totalled some 7,500,000,000. No figure was available for 1939. The monthly production from June to October, 1945, was as follows:—

June	100,681,000
July	101,426,000
August	88,091,000
September	101,798,000
October	119,123,000

The figures for cement were as follows:—

	Tons.
1938	7,715,000
1939	8,212,000
1945 (June)	357,773
(July)	372,848
(August)	325,280
(September) ...	364,115
(October)	395,915

Standard Doors.

VISCOUNT CORVEDALE asked the Minister of Works whether he would take steps to improve the standard of doors used in housing schemes, as the present type was of poor seasoned quality.

MR. WILSON said that he proposed shortly to review with the joinery industry arrangements for the production of doors and other articles of joinery, and would bear in mind the point raised. It would be understood, however, that the continuing difficulties in the supply of timber imposed strict limitations on what could be done at present in the way of improvement.

Prefabricated Permanent Houses.

MR. BOSSOM asked the Minister of Health how many prefabricated permanent houses of each type had been applied for by local authorities in response to his department's Circulars Nos. 182 and 186, issued in October, 1945.

MR. BEVAN said that so far, 562 local authorities had replied and had indicated a possible demand for 39,366 prefabricated houses of various types. As the figures in respect of each type were purely provisional, he would prefer not to publish them at present.

Local Authorities and Architects.

MR. JANNER asked the Minister of Health what was the general practice of principal local authorities in the country at the present time as to placing the majority of the responsibility for their housing upon their architects' department; and whether any advice on this subject had recently been issued by him.

MR. BEVAN said that arrangements made by local authorities for carrying out their responsibilities under the Housing Acts in this respect varied widely and were for them to determine. Advice as to the employment of architects for new housing schemes was given in Housing Manual, 1944 (paragraph 10 and 11).

Copper Water Pipes.

In reply to MR. JANNER, MR. BEVAN said that the use of copper water pipes in houses was consistent with the recommendations made in the Housing Manual issued in 1944 and with the report on Plumbing published by the Minister of Works. There were advantages in the use of copper for water pipes and fittings particularly where soft or moorland waters were concerned. He understood that the copper supply position was not unfavourable at the present time, and he was advising housing authorities accordingly.

Private Enterprise Costs.

LIEUT.-COL. WALKER-SMITH asked the Minister of Health whether, in view of misunderstanding that had arisen in the public mind consequent on the raising of the limit of advances under the Small Dwellings Acquisition Act, he would restate the maximum cost for which private enterprise builders could obtain licences for the erection of houses.

MR. BEVAN said that the maximum selling price applied to houses which might be erected under licence from local authorities at the present time was £1,200 including land, roads and services, or £1,300 in the London Region.

War-damage Repairs.

MR. BOSSOM asked the Minister of Health despite his decision to withdraw the application of the Essential Work Order from bomb-damage repair work as from January 17, whether this type of work would continue to carry W.B.A. priority, and whether the payment-by-results scheme would be applicable.

MR. BEVAN said that W.B.A. priority would, for the time being, be applied only to contracts for repairs to seriously damaged houses on a lump sum basis. The answer to the second part of the question was "No, Sir."

MR. BOSSOM asked the Minister of Health how many houses, including C(b) houses, in the London C.D. region still required repairs to bring them up to the standard laid down in Ministry of Health Serial No. 25.

MR. BEVAN said that according to local authority estimates the figure on December 6, 1945, was 606,270 which included 37,571 houses in the C(b) category. In this connection, however, the hon. Member should have regard to the terms of Circular 219/45 and Serial Note No. 166.

MR. BOSSOM asked the Minister of Health, in view of his recent decision, whether, as from January 17 next, no work on bomb-damage repair in the London region would be permitted to be carried out under the cost-plus system of contract; and whether he would state any exceptions which were to be allowed.

MR. BEVAN said that January 17 was the date from which the Essential Work Order ceased to apply to war-damage repairs in the London Civil Defence Region. The position with regard to cost-plus contracts was set out in Circular 219/45.

MR. BOSSOM asked the Minister of Health whether the fixed price contracts for bomb-damage work, which were to be obligatory as from January 17 would represent the total cost of the works, and include the cost of material as well as the labour, etc.; and whether these contracts would be let by competition.

MR. BEVAN said that fixed price contracts were not obligatory for all war-damage repairs from January 17, 1946. The position was set out in detail in Circular 219/45. Fixed price contracts did not necessarily include the cost of materials as well as of labour. The contracts would generally be let by competition but might be negotiated.

MR. BOSSOM asked the Minister of Supply and of Aircraft Production if all the works that were now making the temporary emergency aluminium houses were completing these for, approximately, the sum of £1,365; and if he would give the highest and the lowest price in the different works.

MR. WILMOT said the cost of fabrication of the aluminium house was only a portion of the total cost. The sum of £1,365 was the estimated average cost over the total number of houses it was proposed to build, and included delivery, erection and other costs. As regarded the last part of the question, it was contrary to established practice to reveal contract prices.

Registered Builders.

MR. KING asked the Minister of Works how many persons who were in the building or civil engineering trades between May, 1939, and October, 1941, had been registered as builders during the present year; what were the principles on which committees dealt with such registration; and whether, in view of the expansion of the building trade, arrangements would be made to ensure such applications for registration were not turned down in the case of qualified men unless the capacity of the builder's district was greatly in excess of the building work which was becoming available for them.

MR. TOMLINSON said that in the period from January 1, 1945, to December 12, 1945, 7,632 persons, who could show that they had carried on a building or civil engineering undertaking between May 1, 1939, and October 1, 1941, were registered. All such applicants were entitled to be registered as of right. In addition, 9,029 persons, of whom 4,613 were ex-Servicemen, were registered under the discretionary powers conferred on him by Defence Regulation 56AB and on the basis of recommendations made by the Independent Committee set up to advise him on this matter. Under the Regulation such applications were granted if this was justified by local or general needs.

MR. SHEPHERD asked the Minister of Labour why it was that Servicemen applying for E.V.T. training in the building trades were being rejected by his department when the needs of the building industry were so pressing.

MR. ISAACS said that his department was not responsible for the Educational and Vocational Training Schemes provided for men in the Services. Men leaving the Services who were in need of training were eligible under the Vocational Training Scheme organised by his Department, and their applications were not rejected if they were adjudged suitable for the trade they wished to learn.

STRUCTURAL USES OF PLYWOOD

In a paper recently presented to the Design and Industries Association, Mr. Arthur H. Scroggs, Director of National Plywood Corporation, Ltd., drew attention to some of the new principles which had been adopted in designing plywood and which had been termed "plywood engineering." He said: "During the war there has been an increase in the adoption of plywood as a load-bearing material and incorporated in designs with a knowledge of its mechanical performance. In common with many other materials, the more scientific use of plywood, both here and in America, has been encouraged by shortages in other directions. I do not think this should be regarded as a temporary measure but a recognition of its rightful position as an engineering material, demonstrated by the fact that it has been made to take stresses and used under conditions never before thought possible.

"Plywood is most effective at least in the lower range of thicknesses when used as a structural diaphragm as a bracing or where plate action with all edges supported is involved. An essential feature of a modern plywood structure is a resin-glued joint between the plywood and supporting framing which has the effect of distributing the load and taking care of stress concentrations due to change in dimensions. This principle is applied to non-stressed as well as to stressed units, and the cavities between the framework are sometimes filled in with stringers or a low-density material to stabilise the plywood skin, to provide insulation or to obtain greater stiffness. When designs incorporate unit construction of this type there are three main advantages.

(*a*) The material is used in the most efficient manner.

(*b*) The units can be jig-built to great accuracy.

(*c*) Time is saved in final assembly or erection.

"This sort of thing has been called prefabrication and hailed as a new discovery. It is not new. The furniture industry, for example, has used laminated panels for years; thus a laminated flush wardrobe door is a factory-made unit which was previously built up from a number of items of framing and panels. Gradually this system of unit construction has been extended and is very well illustrated by the construction employed for the fuselage of the De Havilland Mosquito. It consisted of a relatively thick, light weight, low strength core, in this case balsa wood, faced with thin high strength birch plywood. The primary function of its low density core is to stabilise the thin faces, to enable them to develop as great a proportion as possible of their ultimate strength with an absence of buckling. For this purpose the core must be sufficiently strong to avoid tension failure perpendicular to the face. The core material must also be sufficiently rigid in shear to support the sandwich structure before the faces develop their full strength. Finally, as in all plywood composite panels, the adhesion between the faces and core must be of the highest order and as strong as the material being bonded. For this type of construction various substances have been used for the cores, including foamed resins, calcium alginate, expanded rubber, as well as natural materials such as balsa wood or cork.

"An interesting development in plywood composite is what has been called stringer board. This consists of a series of thin continuous laminated stringers combined with a series of thin laminated spacers at right angles. This core is faced on both sides with either veneer or plywood; the finished composite panel being extremely strong for its weight. A panel 9/16 in. thick with a balsa wood core and 1/16-in. birch faces made on the principle of the Mosquito fuselage failed in bending at 538 lb. per square inch, giving a strength-weight ratio of 640. A stringer board of the same thickness and practically the same weight failed at 1,025 lb. per square inch, giving a strength-weight ratio of 1,170. With the addition of 28 gauge Alclad the bend failure was 1,280 lb. per square inch, the strength-weight ratio being 1,280 against 1,170 for the plywood-faced stringer board and 640 for the plywood-faced balsa wood.

"Another form of unit construction of great importance to-day is applicable to the building trade. It consists of lumber battens spaced at regular intervals and faced on both sides with plywood. A well-glued joint between the battens and plywood is essential, preferably with a synthetic resin applied under positive pressure and, for the sake of accuracy, the whole structure should be made in a jig. For flooring-cum-ceiling panels of a one-storey house, a 12-ft. span can be made by using 6 in. by 1½ in. timber joists at 12-in. centres, faced on the underside with 3/16-in. plywood which forms a ceiling for the lower room and with ¼-in. plywood on the top face which forms the flooring of the upper room. The units, which may be in convenient widths and as long as the span required, can be delivered to a building site ready to place in position. Such a panel will carry normal building loads. It is necessary for the top surface to be ½ in. thick to take point loadings up to 200 lb. Of great advantage is the fact that these units can be built into any type of house construction and are applicable to roof members as well as to partitions and walls, thermal and sound insulation being provided as necessary. All services can be buried in the hollow panels with access covers."

INTER-REGIONAL HIGHWAYS IN THE U.S.A.

The report of the Committee on the improvement of national highways, appointed by President Roosevelt in 1941, was issued in January, 1944, and has now been reprinted here by the Cement and Concrete Association.* While the problems of the U.S.A. and the United Kingdom are not by any means exactly comparable, it is felt that there are many features in the report that have a definite bearing on our own procedure; this is emphasised in the note that it would be unwise to say, "Oh, three million square miles want a lot of good roads," and leave it at that; for the obvious reply is, "So do 46 millions of people packed like sardines."

Of course, the planning is on a scale far more vast than with us, and the demands for land acquisition of a type that would not be acceptable here, but in many respects the demands made offer useful guidance. It is laid down that the vehicles to be provided for are 8 ft. in width, 12 ft. 6 in. in height; single ones 35 ft. in length, with tractor and other combinations up to 50 ft. and even 60 ft. The width is rather more and the height less than is specified in this country; thus 14 ft. is accepted for bridge clearance, where with us the recognised 15 ft. has been criticised as too low. The gross weight of vehicles is calculated as one ton for every foot between the fore and aft axles, which is practically in accordance with conditions in England.

Designing for fairly high speeds is demanded; in open country not less than 75 miles an hour, and for lorries 60 miles is considered reasonable: in or near "Urban" sections 60 and 35 is contemplated. After a careful analysis of the estimated traffic on road systems ranging from 14,300 to 78,800 miles in length, it was found that a road scheme providing 33,920 miles in length gave the highest proportion of vehicle mileage and this was adopted. It connects directly all cities with a population of 300,000 or more, 59 of the 62 cities with over 100,000, 82 out of 107 over 50,000, and nearly half those over 10,000. It is claimed that the recommended system provides for industry to the maximum economic extent and for some 40 per cent. of the agricultural production. Where this is so widely diffused as in the U.S.A. a higher one could hardly be expected.

An important study is that of the proportion of terminal to through traffic in towns of various sizes. For those under 10,000 about half goes further on and would be served by a by-pass. Up to 300,000 some 80 per cent. is bound for the city itself, and above this size the figures are 93 to 96 per cent. The influence of these differences on the planning of urban arterial roads is most important; ring roads may serve to distribute traffic to various parts of a town as well as to provide for by-passing. Terminal points in a city must be conveniently accessible by the highways and chosen to facilitate transfer to rail and water services. One reason for separating long distance fast traffic from the internal street pattern is to avoid the numerous delays and accidents which, as statistics show, occur mainly at street crossings.

The provision, at suitable points in connection with the main arterials, of adequate and well-planned parking places is also a feature that has been found of outstanding importance in American practice. These are either on the level or, where space is not available, in the form of multi-storeyed garages. Underground parking is also advocated where the levels and conditions admit it.

In general the American programme is on much bolder lines than would be regarded as economically practicable here; a number of overhead routes have been provided in city areas, railway tracks have been covered in, and it is sometimes recommended that a series of building blocks should be swept away to give the necessary light and air to the adjacent ones. In open country the speeds regarded as desirable demand longer vision than is usual here, involving the curves admissible horizontally and the grading, vertically. A continuous unobstructed view from a height of four to five feet should be provided on all high-speed rural sections with a sight distance for non-passing traffic of 800 ft. and for passing traffic 2,600 ft. In the lower speed sections the distances would be 400 ft. and 1,500 ft.

Thus a considerable amount of improvement in levels is demanded and this, combined with the separation from local road systems, results in a type of design more nearly approximating to railway practice with over and under bridges. The low grades advocated for cuttings and embankments with level strips on either side of the road dictate the acquisition of considerable widths of land, and also a good deal of study as to the effect on the landscape, a matter emphasised as of definite importance. Modifications are obviously necessary in hilly districts.

Despite the differences in conditions, the Report contains a mass of information on the design and construction of main highways, or "Arterial Roads" as we term them, that cannot fail to be of value to town planners and engineers in this country.

H. V. L.

* *Inter-regional Highways.* The Report of the U.S.A. National Committee. January, 1944. Reprinted by the Cement and Concrete Association.

BUILDERS' COSTING

An address on this subject was given to the Birmingham Association of Building Trades Employers on December 21 by Mr. E. G. Fish, A.C.A., A.C.W.A. We take the following extracts:—

An efficient costing system is necessary for the following reasons:—

(1) To enable a builder to be constantly advised on which contracts and in which self-contained departments his total expenditure has been incurred, thus enabling, during the progress of the work, the cost to date of each contract or self-contained department to be accurately and promptly determined.

(2) To determine the profit or loss on each contract, and in each self-contained department as compared with estimated figures or valuations.

(3) As a means of preparing up-to-date estimated prices for tendering purposes.

(4) For the presentation of costs as required by Government Departments and local authorities.

(5) To reduce to a minimum, waste, inefficiency and dishonesty—particularly in regard to stores control.

(6) To be able to eliminate unprofitable work, or to gauge accurately the cost of continuing an unprofitable department.

(7) To produce data to enable work in progress and stock valuations to be arrived at expeditiously and accurately so allowing for periodical financial accounts to be prepared.

Housing Costs.

Returning now to the question of housing costs. A costing system properly installed can in my opinion be the direct means of a saving in cost of production. Costing is all a question of control. What has the control of cost to do with reduction of cost? might well be asked. The answer is that reduction of cost will as surely follow control, as lack of control precedes wastage and inefficiency.

It must be explained that what we mean by control of cost has nothing whatsoever to do with control by Government Departments or by any official body. It merely refers to methods of controlling expenditure in certain specified channels of cost, in order to keep tally of variations from standard or estimated figures. I will endeavour to quote an actual example of housing costs as an illustration.

Prior to tendering for a housing scheme, the prospective builder will have prepared detailed estimates for each type of house. If expenditure is to be controlled, it must be analysed under the main headings of cost. These may be taken as being: (1) Materials, (2) labour, (3) sub-contractors, (4) transport, (5) non-mechanical plant, (6) mechanical plant, and (7) overheads. For the purpose of comparison—which is the basis of control—the estimate and the ultimate cost must be analysed under the same headings. We will now proceed to take each component of cost separately to find out how we can control it.

Control of Material Costs.

This will arise under the heading of (1) Prices, and (2) Quantities. In this connection, for the purpose of proper control, it is assumed that the buying of all materials, etc., will normally be done by a central buying office. Otherwise, standardised procedure is rendered difficult, and inefficiency and duplication of effort is almost certain to take place.

The basis upon which the central buying department will place its orders to suppliers will be upon a materials schedule, which is a list of materials prepared by the planning department, and expected to be required for each house or block of houses. Each item on this schedule will be priced at the rate on which the original estimate was based—and this will be used as a guide by the buyer.

Upon receiving the materials schedule, the buying department will place master orders with suppliers as required. For example, an order may be placed for 80,000 Fletton bricks, 20,000 multi-coloured facings, 20 tons of cement, etc. Where there is a site office organisation in existence, the order will normally not state a definite time for delivery, but will merely indicate the quantities of materials which the site office are authorised to requisition from the supplier, and the total quantity which is not to be exceeded.

It is clear that provided the quantities ordered are exactly those upon which the original estimate was based, then the ultimate cost, as far as quantities are concerned, should be as the original estimate. In other words, the cost will so far have been completely controlled. In regard to the price actually paid for materials, this we may presume to be the lowest obtaining in competition, and subject to the efficiency of the buying department, one which cannot be improved upon. However, differences will arise between actual prices paid for materials and those estimated. These will be the subject of a materials price variation schedule, or, alternatively, additional columns can be ruled on the materials schedule to give the desired information as to the extra cost or saving in cost, as the case may be, due to bad or good buying.

It has been assumed so far that the estimated quantities have proved to be accurate, and that the orders already placed have resulted in sufficient material being delivered to the site to enable the work to be completed.

In practice, however, this rarely happens, but due mainly to site conditions, the original quantities ordered are usually found to be insufficient. In this eventuality the site office will send to the buying department what is called a Materials Shortage Requisition. This will specify the reason why the estimated quantities have had to be exceeded. This requisition, after due scrutiny by head office technical staff, will be used for placing a shortage order with the supplier of the materials. Shortage requisitions are a very fruitful source of information in that they disclose practical reasons for increased costs.

We have now determined the additional cost of material over estimate under the headings both of excess prices and of excess quantities. In other words, the cost of materials has been controlled within the amount of these excesses. For example, whatever profit or loss finally results on the contract we can say not only exactly how much arose in respect of materials, but we can state definite quantities and prices of certain *specified* materials as causing so much of that profit or loss.

A word of caution is necessary before finishing with the aspect of materials. It is obviously not possible to deal with *all* materials such as isolated purchases, petty cash purchases, etc., in the fashion explained. However, it has been found in practice in normal times that 90 per cent. of materials purchased can be subject to this form of control.

Labour Costs.

This is an extremely difficult item to control. It is not too much to say that at the present time the entire profit or loss on a contract is dependent on the best use being made of available labour. Very many contractors have found themselves incurring heavy losses on war contracts mainly for the reason that the labour supply was unsuitable or inadequate. Often, however, they were not aware of the exact nature or amount of these losses until the totals had become very substantial. It is to avoid this type of happening that we must aim.

There is only one basic method of controlling labour costs, and that is to evaluate the cost against a measurement of the value of work done. If the measured prices are the same as those appearing on the original estimate, then we can ascertain how the actual cost incurred compares with that estimate. It is customary to divide the labour force on a contract into gangs. If each gang's work is measured and costed separately, then we can ascertain whether each gang is making a profit or loss. It must be admitted that this rather detailed analysis of labour does involve a fair amount of clerical work, but in the cases in practice where this system has been used, there has been no doubt that the benefits derived far exceeded the cost of getting out the information. In peace time, on housing work, more than one eminent firm of contractors used such a system for payment of bonus to their workmen. Credit was given for site work, etc., over and above that provided for in the estimated prices. It is doubtful whether bonus payments will be able to be made nowadays, except in accordance with an officially sponsored payment-by-results scheme, which is, perhaps, a pity from the point of view of general efficiency.

Labour Incentives.

The subject of labour incentives is such an important one and exerts so much influence on output and cost reduction that a few general principles may be stated with advantage.

1. Simplicity should be the keynote of any scheme. Leading hands and gangers should be taken into the contractor's confidence, and rules of procedure should be formulated, and posted up for the operatives to see. If practicable, a committee should be formed, including at least one representative of the operatives, to administer the scheme.

2 Frequent payments of bonus or shares of profit are advisable. Thus weekly payments are a far greater incentive than yearly or half-yearly payments.

3. As far as possible, only those men actually earning bonus by their own efforts should receive it. This does not mean that each man's work must be measured and bonused separately as that is obviously a practical impossibility. What it does mean is that bonusing units should be reduced to tractable proportions. For example, the whole labour force may be divided into gangs of, say, 20 to 25 men, and each gang's work measured and bonused separately. This is far better than any collective schemes, where the labour force is bonused as a whole.

4. If possible, all the operations should be bonused, and not specified operations only, as in this latter instance the profit made by the contractor on bonused items tends to be lost on the non-bonused ones.

Sub-Contractors' Costs.

The control of sub-contractors' costs does not represent any great difficulty. The main point to observe is how does the actual cost compare with the original estimate. A schedule of variations should be prepared to show increases or decreases in price, and extra work or omissions.

Transport and Mechanical Plant Costs.

Transport and mechanical plant can either be hired from outsiders or belong to the contractor. The principles involved are the same. Before orders are placed for transport or plant, competitive quotations should be obtained from all available sources, and the order placed accordingly. A quotation in respect of the contractor's own transport and plant will be submitted by the plant manager in competition with outside hirers. The cost incurred under the separate headings of transport and plant will be segregated and can be compared with original estimates.

With regard to the contractor's own transport and plant, it would seem that a full measure of control over cost will only be attained where they are dealt with in all respects as though they belonged to a separate department quite outside building operations, or better still to an entirely separate concern. The reasons for this are many.

(1) If transport and plant are treated as a separate operational entity, the profit earned by them will not depend on the nature of the contract on which the plant is used. For instance, on a particular contract involving the use of heavy plant,

the plant charges may have been cut in order to get the work, but this loss should fall on the contract concerned and not on the plant department, who could, we may infer, have hired the plant elsewhere at full rate in any case.

(2) The transport and plant manager and his staff can be remunerated in part, at least, by way of a percentage on the profit of their department, thus encouraging them to hire plant in the best market, including hire to outside firms, and to consider the good of the firm as a whole rather than that of any particular contract.

(3) If transport and plant are under one control, the responsibility for keeping the fleet in good working order is easily allocated, and the costing data necessary to record the history of the plant is more easily kept.

(4) Last but not least, it gives the builder a firm basis on which to resist any efforts by Government Departments or local authorities to single out particular items of plant or plant on particular contracts, as having made so much profit, whilst ignoring the fact that other plant—all part of the same fleet—may have been lying idle for months.

Assuming, then, that transport and plant are treated as a separate department, it will be possible to charge all repairs, upkeep, depreciation and other expenses of that department to an account to be valued against the charges accruing to its credit by way of hire. The profit or loss on operating will be a measure of the efficiency of the whole department.

Non-mechanical Plant Costs.

The treatment of non-mechanical plant, including loose tools, in cost, is always a rather contentious matter. In order to control the cost, however, a record should be maintained of all items sent to a contract or purchased for that contract and all items sent away or remaining at the end. A valuation of the cost of non-mechanical plant used, can then be arrived at and expressed in terms of a percentage either on wages or on the total cost of the contract. This percentage can be compared with known averages and differences accounted for.

Overhead Expenses.

By overhead expenses is meant to imply all those items of expenditure which cannot be directly attributable to a particular contract or self-contained department. As, for instance, head office salaries, head office rent, rates, taxes, printing and stationery, etc.

There is one particular point to remember, and that is that overheads are a dead loss to a business and have to be recovered or paid for before any profit is earned. Therefore, endeavour to reduce overheads to a minimum. This sounds self-evident, but what is meant is to endeavour to charge all possible items of expenditure direct to a contract or self-contained department. I have often seen head office salaries charged in overheads when they could be charged direct to a contract, as, for example, staff working on the site, payment being merely made from head office for convenience.

Control of overheads is affected mainly by budgeting—that is estimating in advance, and by comparison—that is comparing with past figures. At the start of each financial year a budget of estimated overhead expenditure for the year should be prepared, under the various detailed headings such as salaries, rent, rates, taxes, light, heat, etc., and divided by 12 so as to arrive at a monthly total. As the year progresses, the actual expenditure will be costed against the budget. Deviations from estimate will be brought to light at each month end, and steps can be taken to deal with them. Overheads are notoriously difficult to control and tend to rise, both in total and when expressed as a percentage, when business is slack, but this is no reason for not making the effort.

"RATIO STRUCTURE SYSTEM" FOR HOUSES

A U.S. DEVELOPMENT.

Houses assembled from the roof down are described in a final report on the "Ratio Structure System" developed by research sponsored by the U.S. War Production Board's Office of Production Research and Development and announced on September 22.

The report shows how prefabricated one- and two-storey buildings could be constructed so that they would be capable of withstanding stresses and strains to an extent unusual in structures of lightweight, readily transported materials. In addition, the designs have been worked out with close attention to flexibility in meeting space and floor arrangement needs, ease and space saving in shipping, and the saving of time and labour in erecting. "Ratio Structure" was the name given to the new system because new and more economical ratios between the dimensions of materials used and the actual structural requirements are present in all designs.

The basic designs of the ratio structure system were developed some years ago, but practical experimentation in actual building was deemed necessary to perfect the packaging and to test endurance and resistance to winds and weather. A 160-family low-rent housing project at Sidney, New York, was constructed, using the designs, and additional wind and weather tests were made in New York University's engineering laboratory.

In ratio construction, the report explains, the structure is assembled from the roof down. A series of free standing posts on the outside of the building carries the roof load and forms the structural frame. Both the exterior walls and the partitions are of the "curtain" type and may be moved about, even after the building is complete. Virtually all the interior space is free, and may be divided and used as desired. Replacing the conventional cable roof supported by triangular trusses or rafters is an arch roof with curved, standardised panels put together like bricks to form barrel vaults spanning the entire width of the building.

For flat roof ratio structure, panels of plywood sheets on light frames stretch between girders, and posts of special V-form with plywood webs are used as wind braces in every alternate bay. The roof panels are used in both arch roof and flat roof ratio building. In the arched roof the ceiling panels are hung by hooks to the tie beams or tie rods. In the flat roof, the roof panels are directly connected to the tops of girders, while ceiling panels are hung from the lower part of the girders.

The new constructional system lends itself to the building of homes, hospitals, dormitories, recreation centres, schools, industrial plants, warehouses and farm buildings. Several of the designs for emergency use buildings may be converted to permanent structures with but minor additions.

The designs make use of various available and comparatively plentiful materials, such as large panels of fibre board, large glass sections, steel or wood frames, plywood, laminated wood ribs, and metal frames.

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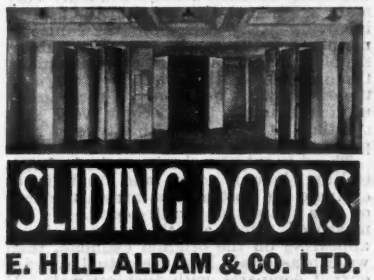

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LABOUR AND THE CHRISTMAS HOLIDAYS

MIDDLESEX FIRM'S COMPLAINT TO L.M.B.A.

A copy has reached us of a letter, dated December 27, sent by Messrs. R. B. Burden, Ltd., of Hounslow, Middlesex, to the Director of the L.M.B.A., the text of which is as follows :—

Re Christmas Holidays, 1945.

Dear Sir,—At the first opportunity we should be glad if you would raise with the National Joint Council the question of the attitude of many employees in respect of the recent Christmas holiday, with a view to some form of censure being passed upon the employees.

You will doubtless recall that the National Federation of Building Trades Employers went to considerable trouble pointing out the employers' obligation of opening their works on all days other than Christmas Day and Boxing Day, otherwise the employees could look upon the closing of any works at times other than these as a lock-out and could demand their wages. Naturally all our contracts were open and consist entirely of works to make housing accommodation available which Mr. Aneurin Bevan tells us is so extremely urgent and important. On Saturday last, the 22nd instant, more than 50 per cent. of our employees were absent without permission and on Monday the position was exactly similar.

Under the rules and regulations governing employment in the building and civil engineering industry we should like to have your confirmation that all employees who absented themselves from work on Saturday and Monday, not due to illness, created a breach of their contract and are liable to reimburse us to the extent of two hours of their wages to which we are entitled in lieu of notice. If we may have your confirmation on this, please, we shall inform each and every man that, having left the works without permission and not due to illness they can consider themselves discharged and we shall deduct from wages due to them the two hours to which we are entitled.

You may consider, of course, that we are making a considerable fuss regarding this matter, but we think the time is long overdue when employers should take some disciplinary action, and if the Government is really so concerned regarding the building industry employers should have their support.

Yours faithfully,

For and on behalf of R. B. Burden, Ltd.,

R. B. Burden,
Managing Director.

WAR DAMAGE REPAIRS

GENERAL DIRECTION TO HOUSING AUTHORITIES IN ENGLAND.

CIRCULAR 231/45, issued by the Ministry of Health to all Housing Authorities (England) makes reference to Circular 138/45, dated July 20, 1945, with particular reference to the arrangements outlined in paragraph 6, sub-paragraph 2, for the repair of war damage in excess of £250.

In consultation with the War Damage Commission, the following relaxations of this procedure have been agreed :—

(1) Local authorities undertaking work of war damage repair in excess of £250 are no longer required to obtain the prior approval of the War Damage Commission before commencing work.

(2) The issue of licences to private owners applying to do work of war damage repair which fits in with local authority's programme of work should not be withheld pending prior consultation with, and the agreement of, the War Damage Commission.

When issuing licences in the future, however, local authorities are asked to be good enough to remind the licensee (*a*) in his own interests he should consult the War Damage Commission before commencing work, and (*b*) the value of the work licensed is not necessarily the amount which the War Damage Commission will agree to pay.

The arrangements made in Circular 156/45, dated August 27, 1945, for the rebuilding of war destroyed houses remain unchanged.

LONDON WAR DAMAGE REPAIRS.

In Circular 236/45, issued to all Housing Authorities in the London Civil Defence Region, on December 28, the Ministry of Health refers to the repair of war damaged houses and other housing works, London Civil Defence Region, and in particular to the Minister's conference with representatives of local authorities within the London Region on December 10 last, concerning the future arrangements for work on war damage repair.

Two main tasks of house repair in London remain. First, to repair the large number of dwellings which were so heavily damaged as to be uninhabitable, and secondly, to finish work of repair to the standard decided by the local authority in accordance with Circular 219/45, on houses which so far have not yet been repaired beyond the emergency standard. Plans for these works must, of course, be integrated with plans for adaptation or conversion of large houses for multi-family occupation, for the provision of temporary houses, and for the building of new, permanent houses as well as the re-erection of "cost of works" houses totally destroyed.

The circumstances of local authorities vary considerably, and this, together with the changes introduced by Circular 219/45 and fluctuation in the flow of labour will, it is recognised, make it difficult for local authorities to plan ahead with certainty. It is, however, essential that the Ministry of Health should have all possible guidance as to the extent of work to be undertaken within the Region during 1946, in order to secure the utmost efficiency by the fullest use of available labour and materials. It is therefore suggested that local authorities should draw up a programme for 1946 on the following lines :—

(1) *War damage repair for each quarter of the year* : (*a*) repair of C(b) houses or *other unoccupied* war damaged houses; (*b*) further repair of war damage in accordance with Circular 219/45 and Serial Note 166, to occupied properties previously repaired only to an emergency standard.

(2) *Other housing works for the whole of 1946* : (*a*) erection of temporary houses; (*b*) erection of new permanent houses (traditional and prefabricated); (*c*) the building of totally destroyed houses, which attract a cost of works payment; (*d*) work on house repairs, rebuilding, or building for which the local authority is prepared to grant a licence or issue a certificate of essentiality.

All this work is a charge on such labour as is available, and should be planned as a whole on very broad lines. The Regional Architects of the Ministry of Health will shortly visit local authorities in order to discuss informally with their officers a provisional programme of work for the coming year.

B.S. Specifications.

The following British standards have been issued from 28, Victoria-street, S.W.1, price 2s. each : Flush Wood Doors with Plywood Faces (B.S. 459, Pt. 2); Concrete Interlocking Tiles (B.S. No. 550); Concrete Railway Sleepers (B.S. No. 986); Dimensions and Workmanship of Natural Stone for Building (B.S. No. 1232.—Application of Production Control (B.S. No. 1100 : Part 3) (price, 2s. 6d.); Guide for Quality Control and Control Chart Methods of Analysing Data (B.S. No. 1008) (3s. 6d. net); P.D. 393 —Amendment to British Standard Specification for Kitchen Fittings (B.S. No. 1195) (Gratis); Copings of Clayware, Cast Stone and Natural Stone (B.S. No. 1233, 1234, 1235) (Price 2s. net); Metal Casement Windows (B.S. No. 990 : 1945) (Price 3s. 6d. net); and Schedule to STA-7 PD 402 (Price 2s. net).

DIRECT LABOUR AT SWANSEA

PRIVATE TENDERS LOWEST.

ALTHOUGH a private contractor had submitted the lowest tenders for reconstructing three lots of "blitzed" houses, and other tenderers had also submitted prices lower than the Borough Architect estimated that he could do the work, Swansea Corporation Housing Committee, at a recent meeting, decided in favour of the architect's department doing the job. The decision is subject to approval by the Welsh Board of Health. Lowest tenders in each case were submitted by Mr. L. H. Samuel, Landore, and were as follows : for 23 houses, £15,574; for 18, £13,085; and for 20, £15,459.

The architect's estimates respectively were £17,173, £16,408, and £19,763.

A member of the committee, in moving that the work be done by direct administration, remarked that tenders submitted by the architect in the past were on a wide margin of safety, and they had found, when the work had been completed, that there had been a considerable saving to the Corporation.

In supporting this view, another member suggested that the architect had to take safeguards which other people had not to do. The private contractor had within his tender retained for himself a reasonable margin of profit.

The Borough Architect, Mr. E. C. Morgan, said he was already under contract for 90 houses by direct administration, and he had been instructed to advertise for tenders so that local builders who had their own following of workers should be employed. They did this under instructions from the Welsh Board of Health. He was in rather a difficulty now with regard to labour.

It was agreed that if it was found necessary to justify the decision with the Welsh Board of Health a deputation should wait on them.

HOUSE BUILDING BY PRIVATE BUILDERS

POSITION IN LONDON

In Circular 233/45, issued by the Ministry of Health to Metropolitan Borough Councils and the L.C.C., information is contained that it has been decided that the powers conferred upon local authorities by Circular 138/45 of issuing licences for the building of new houses by private enterprise (subject to the limits prescribed in Circular 125/45 and Circulars 146/45 and 172/45) shall be exercised within the Administrative County of London by Metropolitan Borough Councils. The Town Clerk or other officer properly appointed by the Council under Circular 123/45 may issue licences for the erection of a new house, the preparation of a site for new houses or the rebuilding of a "cost of works" house.

As Metropolitan Borough Councils are not the appropriate authorities to approve proposals under the Town and Country Planning Acts or under bye-laws and local Acts relating to building, consent should be given subject to the applicants complying with all statutory requirements. It will then be for the applicant to obtain the necessary additional approvals from the L.C.C. It should be noted that on works costing more than £100 the period within which work must begin is two months after the granting of the licence.

Building Technicians' Pocket Diary.

We are asked to state that the pocket diary for 1946 issued by the Association of Building Technicians is now completely sold out.

FRENCH PREFABRICATED HOUSES

BY B. S. TOWNROE (DIRECTOR OF THE FRANCO-BRITISH SOCIETY)

Last month (December) an exhibition of various types of prefabricated houses was held in Paris in the former railway station of the Invalides. Here could be seen the results of experiments in new forms of house-building which have been carried out for some time past at a Research Station at Noisy-le-Sec.

M. Dautry, the Minister of Reconstruction, with whom I recently had an interesting conversation in his office in Paris, takes the view that there must be more economies in house building, and much greater use of new materials. Accordingly, just as at the Building Research Station at Watford and at Northolt, in England, so it was decided in France to conduct a number of experiments in prefabrication and to erect various models.

A typical French prefabricated house has been designed for a family of three to five children. It contains a good-sized living-room, a kitchen, w.c., and three bedrooms. Unlike the British temporary or permanent prefabricated house, the French house includes a cellar under the house, where potatoes and wine can be kept, and also a laundry. There is a bathroom without a full-sized bath. The French bathrooms contain a shower, a "bidet," a wash basin and a small cupboard. The laundry contains a washing-machine and a drying-machine.

The architects selected to design these houses have been given two directions. First, each house must be planned for a family, and the housewife and mother, above all, must be considered. Her work, including the cooking and preparation of meals and looking after children, has to be reduced to the minimum. Secondly, there has to be a good deal of built-in furniture. The architects have also been told to pay close attention to æsthetic questions, so as to make sure that the buildings harmonise with the surrounding landscape.

M. Dautry and his officials are controlling both the designs and the provision of materials. But for the time being the erection of "prefabs" on a grand scale remains in suspense. For the cost of these houses is proving to be unexpectedly high. The cost of one type has already worked out to over £2,000 at the present rate of exchange. There is, therefore, an urgent demand for prices to be reduced. It is claimed that in general the houses on the technical side compare favourably with those planned by the British Ministry of Works. The French are, however, still very much handicapped by shortage of materials and coal in the actual mass production of the various types approved.

In order to give the French public the opportunity to make comparisons, American and Canadian houses are being shown side by side with some of the French types.

National Savings.

Mr. George Hicks, M.P., Chairman of the Building, Civil Engineering and Allied Trades Savings Committee, sends a New Year message to all in those industries who, by their work and by their savings, have supported the National Savings Movement during 1945, in which he says: "With my thanks for what has been done must go an appeal for renewed effort in the New Year. Goods are still in short supply. Spend money and prices rise. The result is inflation, against which the Government, as every sane Government would, has very strongly set its face."

CODES OF PRACTICE

VENTILATION, ARTIFICIAL LIGHT AND SUNLIGHT

Two further chapters of the Code of Functional Requirements of Buildings have now been published for the Codes of Practice Committee by the British Standards Institution. They are Chapter I (C) Ventilation, and Chapter VII (F) Provision of Artificial Light. A third Chapter I (B) Sunlight is now in print.

These Chapters were originally issued in draft form some months ago. They have since been revised in the light of the criticisms and suggestions then received, and are now appearing in their final form. In view of the present housing emergency, all three documents are limited in scope to houses, flats and schools only. Chapters dealing with all types of buildings will be issued later.

Chapter I (C)—Ventilation—lays down recommended standards of ventilation, both natural and mechanical.

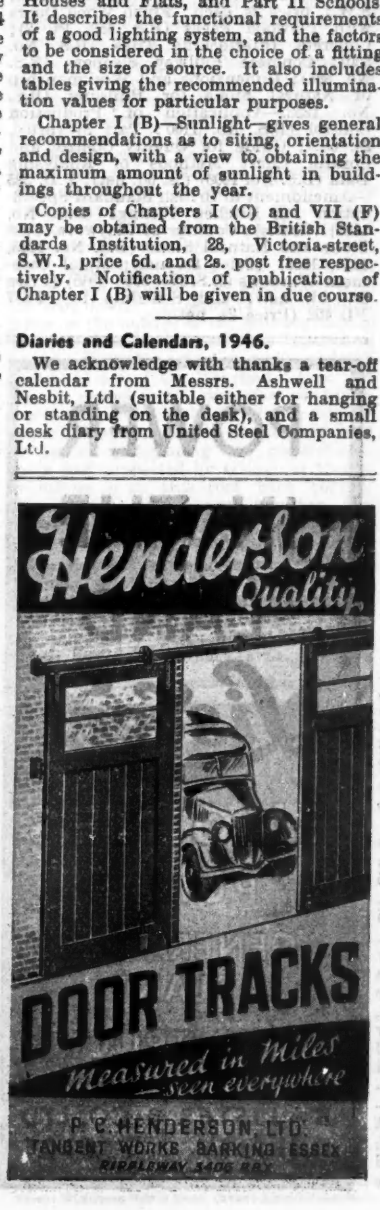
Chapter VII (F)—Provision of Artificial Light—is divided into two parts: Part I Houses and Flats, and Part II Schools. It describes the functional requirements of a good lighting system, and the factors to be considered in the choice of a fitting and the size of source. It also includes tables giving the recommended illumination values for particular purposes.

Chapter I (B)—Sunlight—gives general recommendations as to siting, orientation and design, with a view to obtaining the maximum amount of sunlight in buildings throughout the year.

Copies of Chapters I (C) and VII (F) may be obtained from the British Standards Institution, 28, Victoria-street, S.W.1, price 6d. and 2s. post free respectively. Notification of publication of Chapter I (B) will be given in due course.

Diaries and Calendars, 1946.

We acknowledge with thanks a tear-off calendar from Messrs. Ashwell and Nesbit, Ltd. (suitable either for hanging or standing on the desk), and a small desk diary from United Steel Companies, Ltd.



BOOK REVIEWS

Brickwork. By W. B. McKay, M.Sc.Tech., M.I.Struct.E. The Building Craft Series. (London: Longmans, Green and Co.). Price 7s. 6d. net.

Prepared by an author whose books on Building Construction are already well known, this book, clearly written and well illustrated, is well suited to the needs of beginners, for whom it is intended. The materials used and the processes involved in constructing walls up to two bricks in thickness are dealt with, including bonding in walls, piers and junctions, the construction of openings and foundations. Cavity walls, circular work, reinforced brickwork and fireplace construction, perhaps beyond the work that can be properly ascribed to the beginner, are also included. There is a chapter on drawing equipment and drawing which will help the student to attain a standard of draughtsmanship that will materially assist his studies.

The practical information on bricklaying, contributed by a craftsman of long experience, will be helpful not only to the bricklayer's apprentice for whom it is intended, but also to architectural and surveying students in acquiring a knowledge that will aid them in studying, and later in supervising, building work.

A. B. W.

Willis's Workmen's Compensation Acts. 37th edition. London: Butterworth & Co. (Publishers), Ltd. Price 30s., plus 10d. postage.

The publication of the 37th edition of this monumental work has been made necessary, not because of any further legislation, but because of new decisions in the Courts, which from time to time so materially affect the law relating to workmen's compensation. These cases have been fully dealt with in the new edition and in the way we expect to find them dealt with. Also the amendment of the Byssinosis (Benefit) Scheme, 1941, is included, together with notes to the Workmen's Compensation (Temporary Increases) Act, 1943. The great value of the book is that it not only explains the law, but contains so much information which is of a practical nature.

BUILDING APPRENTICES SPORTS ASSOCIATION

MINISTER OF WORKS BECOMES PATRON

The Minister of Works, the Chairman of the L.C.C., Sir Malcolm Trustram Eve, Mr. J. W. Stephenson, and Mr. Richard Coppock, have, amongst others, accepted invitations to become patrons of the new London Building Trade Apprentices' Sports Association. The purpose of the new Association is to encourage sports, games and welfare among building trade apprentices in the London area, to promote local clubs and to obtain equipment and playing fields for the use of its members.

Major Leslie Shingleton, former President of the London Master Builders' Association, has been elected its first President, and among members of the Council are the President and Vice-Presidents of the London Master Builders' Association, representatives of the L.M.B.A. areas, Mr. E. H. Bryan, chairman, and Mr. V. T. Sulston, London District Secretary of the National Federation of Building Trades Operatives. Mr. F. W. Stratton is the Hon. Treasurer, and Mr. Tom Smith, secretary and manager.

Membership of the Association is open to registered apprentices and their employers in the London area, ex-apprentices and junior staff of Builders' offices,

(*Continued on page 20.*)

RATES OF WAGES IN THE BUILDING TRADE

AS FROM BEGINNING OF PAY WEEK NEXT FOLLOWING 1st JANUARY, 1946.

(Every endeavour is made to ensure accuracy, but we cannot be responsible for errors)

	Crafts-men.	Lab-ourers.
Aberavon	2/6	2/0
Aberdare	2/6	2/0
Abergavenny	2/6	2/0
Abingdon	2/4½	1/11
Accrington	2/6	2/0
Aldeburgh	2/4	1/10½
Aldershot District	2/4½	1/11
Alfreton U.D.	2/6	2/0
Alnwick	2/5½	1/11½
Altrincham	2/6	2/0
Amble	2/5½	1/11½
Amersham	2/4½	1/11
Ammanford	2/6	2/0
Andover	2/4	1/10½
Ardingly	2/4	1/10½
Arundel	2/4	1/10½
Ascot	2/4	1/10½
Ashby-de-la-Zouch U.D.	2/6	2/0
Ashford (Kent)	2/4	1/10½
Ashford (Middlesex)	2/6	2/0
Ashington	2/5½	1/11½
Ashtead	2/6	2/0
Ashton-under-Lyne	2/6	2/0
Aylesbury	2/4	1/10½
Aylsham	2/4	1/10½
Bagshot	2/4	1/10½
Banbury	2/4	1/10½
Barnsley	2/6	2/0
Barnstaple	2/4	1/10½
Barrow-in-Furness	2/6	2/0
Barry	2/6	2/0
Basingstoke	2/4	1/10½
Bath	2/5½	1/11½
Batley	2/6	2/0
Beaconsfield	2/4½	1/11
Beccles	2/4	1/10½
Bedford	2/5½	1/11½
Berkhamstead	2/4	1/10½
Berwick District	2/5½	1/11½
Beverley	2/6	2/0
Bexhill-on-Sea	2/4½	1/11
Bideford	2/4	1/10½
Biggleswade	2/4	1/10½
Billericay	2/5	1/11½
Birchington	2/4	1/10½
Birkenhead	2/7½	2/1½
Birmingham C.B.	†2/6	†2/0
Bishop Auckland	2/6	2/0
Bishop's Stortford	2/5	1/11½
Blackburn	2/6	2/0
Blackpool	2/6	2/0
Blyth	2/6	2/0
Bognor Regis	2/4	1/10½
Bolton	2/6	2/0
Bournemouth District	2/5	1/11½
Bracknell	2/4	1/10½
Bradford	2/6	2/0
Bradford-on-Avon	2/4	1/10½
Braintree	2/4	1/10½
Brentwood	2/5½	1/11½
Bridgwater	2/4½	1/11
Bridlington	2/5½	1/11½
Brighouse	2/6	2/0
Brighton	2/5	1/11½
Bristol	2/6	2/0
Broadstairs	2/4	1/10½
Bromsgrove U.D.	2/5½	1/11½
Buckley	2/6	2/0
Bungay	2/4	1/10½
Burnham-on-Crouch	2/4	1/10½
Burnley	2/6	2/0
Burslem	2/6	2/0
Burton-on-Trent C.B.	2/6	2/0
Bury	2/6	2/0
Bury St. Edmunds	2/4	1/10½
Buxton	2/5½	1/11½
Byfleet	2/4½	1/11
Cambridge	2/6	2/0
Canterbury	2/4	1/10½
Cardiff	2/6	2/0
Carlisle	2/6	2/0
Carnforth	2/6	2/0
Castleford	2/6	2/0
Caterham	2/6	2/0
Chard	2/4	1/10½
Chatham & District	2/5	1/11½
Chelmsford	2/5½	1/11½
Cheltenham	2/5	1/11½
Chepstow	2/5½	1/11½
Chertsey	2/5	1/11½
Chester	2/6	2/0
Chesterfield M.B.	2/6	2/0
Chichester	2/4	1/10½
Chorley	2/6	2/0
Cirencester	2/4	1/10½
Clacton	2/4	1/10½
Cleveleys	2/6	2/0
Clitheroe	2/6	2/0
Cobham (Surrey)	2/5	1/11½
Colchester	2/5½	1/11½
Colwyn Bay	2/5	1/11½
Congleton	2/5½	1/11½
Coventry C.B.	2/6	2/0
Cranbrook	2/4	1/10½
Cranleigh	2/4	1/10½
Crawley (Sussex)	2/4	1/10½
Crewe	2/5½	1/11½
Cromer	2/4	1/10½
Crowborough	2/4	1/10½
Cuckfield	2/4	1/10½
Darlington District	2/6	2/0
Darwen	2/6	2/0
Daventry M.B.	2/4½	1/11
Deal	2/4	1/10½
Denbigh Town	2/5	1/11½
Derby C.B.	2/6	2/0
Devizes	2/4	1/10½
Dewsbury	2/6	2/0
Didcot	2/4	1/10½
Diss	2/4	1/10½
Doncaster	2/6	2/0
Dorchester	2/4	1/10½
Dorking	2/4½	1/11
Dover	2/4	1/10½
Dovercourt	2/4	1/10½
Driffield	2/4½	1/11
Droitwich M.B.	2/5½	1/11½
Dudley M.B.	2/6	2/0
Dunstable	2/4½	1/11
Durham City	2/6	2/0
Eastbourne	2/5	1/11½
E. Glam. (Mon. Val.)	2/6	2/0
East Grinstead District	2/4	1/10½
Edenbridge	2/4	1/10½
Ely	2/4	1/10½
Epping	2/6	2/0
Exeter	2/5½	1/11½
Exmouth	2/4½	1/11
Fakenham	2/4	1/10½
Falmouth	2/4½	1/11
Fareham	2/5	1/11½
Faversham	2/4	1/10½
Felixstowe	2/5	1/11½
Filey	2/4½	1/11
Fleetwood	2/6	2/0
Flint	2/6	2/0
Folkestone	2/4	1/10½
Frinton	2/4	1/10½
Frome	2/5	1/11½
Gainsborough U.D.	2/5	1/11½
Gateshead	2/6	2/0
Gillingham (Kent)	2/5	1/11½
Glossop	2/6	2/0
Gloucester	2/5½	1/11½
Godalming	2/4	1/10½
Goole	2/6	2/0
Gosport	2/5½	1/11½
Grantham M.B.	2/5	1/11½
Gravesend	2/5½	1/11½
Great Yarmouth	2/4	1/10½
Grimsby	2/6	2/0
Guildford District	2/4	1/10½
Guilsborough	2/4½	1/11
Halifax	2/6	2/0
Hanley	2/6	2/0
Harpenden	2/5	1/11½
Harrogate	2/6	2/0
Hartlepools	2/6	2/0
Harwich	2/4	1/10½
Haslemere	2/4	1/10½
Hastings	2/4	1/10½
Hatfield	2/5½	1/11½
Haywards Heath	2/4	1/10½
Hednesford	2/5½	1/11½
Hemel Hempstead	2/5	1/11½
Henley-on-Thames	2/4	1/10½
Hereford	2/4	1/10½
Herne Bay	2/4	1/10½
Hertford	2/5½	1/11½
Heysham	2/6	2/0
Hitchin	2/5	1/11½
Hoddesdon	2/5½	1/11½
Holt (Norfolk)	2/4	1/10½
Horley	2/4	1/10½
Horsham	2/4	1/10½
Horwich	2/6	2/0
Huddersfield	2/6	2/0
Hull	2/6	2/0
Hunstanton	2/4	1/10½
Huntingdon	2/4	1/10½
Ilfracombe	2/4	1/10½
Ingatestone	2/4½	1/11
Ipswich	2/5½	1/11½
Isle of Thanet	2/4	1/10½
Isle of Wight	2/4	1/10½
Keighley	2/6	2/0
Kenilworth U.D.	2/6	2/0
Kettering M.B.	2/6	2/0
Kidderminster M.B.	2/5½	1/11½
King's Lynn	2/4	1/10½
Kirkham	2/6	2/0
Knowle	2/5½	1/11½
Lancaster	2/6	2/0
Leamington M.B.	2/6	2/0
Leatherhead	2/5	1/11½
Leeds	2/6	2/0
Leicester C.B.	2/6	2/0
Leighton Buzzard	2/4½	1/11
Letchworth	2/5	1/11½
Lewes	2/4	1/10½
Lichfield M.B.	2/5	1/11½
Lincoln C.B.	2/6	2/0
Littlehampton	2/4	1/10½
Liverpool	2/7½	2/1½
Llandudno	2/5	1/11½
Llanelly	2/6	2/0
London—		
12m. radius	2/7½	2/1½
12-15 m. radius	2/7	2/1
Long Eaton	2/6	2/0
Longton	2/6	2/0
Loughborough M.B.	2/6	2/0
Louth M.B.	2/4½	1/11
Lowestoft	2/4	1/10½
Luton	2/5½	1/11½
Macclesfield	2/5½	1/11½
Maidenhead	2/5	1/11½
Maidstone	2/4½	1/11
Malvern U.D.	2/4½	1/11
Manchester	2/6	2/0
Manningtree	2/4	1/10½
Mansfield M.B.	2/6	2/0
March	2/4	1/10½
Margate	2/4	1/10½
Market Harborough	2/5	1/11½
Matlock U.D.	2/4½	1/11
Melton Constable	2/4	1/10½
Melton Mowbray U.D.	2/5	1/11½
Merthyr	2/6	2/0
Middlesbrough	2/6	2/0
Middleton	2/6	2/0
Middlewich	2/5½	1/11½
Milford Haven	2/4½	1/11
Morecambe	2/6	2/0
Morley	2/6	2/0
Mundesley	2/4	1/10½
Nantwich	2/5½	1/11½
Nelson	2/6	2/0
Newark-on-Trent	2/5½	1/11½
Newbury	2/4	1/10½
Newcastle-on-Tyne	2/6	2/0
Newcastle-u.-Lyme	2/6	2/0
New Forest District	2/4	1/10½
Newmarket	2/4	1/10½
Newport, Mon.	2/6	2/0
Newport Pagnell	2/4	1/10½
Northampton C.B.	2/6	2/0
Norwich	2/6	2/0
Nottingham C.B.	2/6	2/0
Nuneaton M.B.	2/6	2/0
Oakham	2/4½	1/11
Oldham	2/6	2/0
Ormskirk	2/6	2/0
Oxford	2/5½	1/11½
Oxted	2/4½	1/11
Paignton	2/5½	1/11½
Peterborough (Borough)	2/5½	1/11½
Plymouth	2/6	2/0
Pontefract	2/6	2/0
Pontypridd District	2/6	2/0
Port Talbot	2/6	2/0
Portsmouth	2/5½	1/11½
Preston	2/6	2/0
Pulborough	2/4	1/10½
Ramsgate	2/4	1/10½
Reading	2/5½	1/11½
Redditch U.D.	2/5½	1/11½
Redhill	2/4½	1/11
Ripon	2/4½	1/11
Rochdale	2/6	2/0
Rochester	2/5	1/11½
Rugby M.B.	2/6	2/0
St. Albans	2/5½	1/11½
St. Helens	2/6	2/0
St. Neots	2/4	1/10½
Saffron Walden	2/4	1/10½
Salisbury City	2/4	1/10½
Salisbury Plain	2/4	1/10½
Sawbridgeworth	2/4½	1/11
Saxmundham	2/4	1/10½
Scarborough	2/5½	1/11½
Scunthorpe	2/6	2/0
Selby	2/6	2/0
Sevenoaks	2/4½	1/11
Sheerness	2/6	2/0
Sheffield	2/6	2/0
Shipley	2/5½	1/11½
Shoeburyness	2/5	1/11½
Shoreham	2/5½	1/11½
Shrewsbury M.B.	2/4	1/10½
Sittingbourne	2/5	1/11½
Skegness U.D.	2/4½	1/11
Sleaford U.D.	2/5	1/11½
Slough	† 2/6	† 2/0
Smethwick C.B.	2/5½	1/11½
Southampton	2/6	2/0
Southend-on-Sea	2/5½	1/11½
District	2/6	2/0
Southport	2/6	2/0
South Shields	2/4	1/10½
Spalding U.D.	2/5½	1/11½
Stafford M.B.	2/5	1/11½
Staines	2/5	1/11½
Stamford	2/5	1/11½
Stevenage	2/6	2/0
Stockport	2/6	2/0
Stockton-on-Tees	2/6	2/0
Stoke-on-Trent C.B.	2/6	2/0
Stourbridge M.B.	2/6	2/0
Stourport U.D.	2/5½	1/11½
Stowmarket	2/4	1/10½
Stratford-on-Avon M.B.	2/5	1/11½
Stroud	2/5	1/11½
Sunderland District	2/6	2/0
Sutton Coldfield M.B.	2/6	2/0
Swaffham	2/4	1/10½
Swanage	2/4	1/10½
Swansea	2/6	2/0
Swindon	2/4½	1/11
Tamworth M.B.	2/5½	1/11½
Taunton	2/4½	1/11
Tenterden	2/4	1/10½
Thames Haven	2/6	2/0
Thetford	2/4	1/10½
Thorpe Bay	2/5½	1/11½
Todmorden	2/6	2/0
Tonbridge	2/4½	1/11
Torquay	2/5½	1/11½
Totnes	2/4	1/10½
Trowbridge	2/4	1/10½
Truro	2/4	1/10½
Tunbridge Wells	2/4½	1/11
Uppingham (Salop)	2/5½	1/11½
Uttoxeter U.D.	2/4½	1/11
Wakefield	2/6	2/0
Walsall C.B.	2/6	2/0
Walsden	2/6	2/0
Walton-on-Naze	2/4	1/10½
Ware	2/5½	1/11½
Warminster	2/4	1/10½
Warrington	2/6	2/0
Warwick M.B.	2/6	2/0
Wellington R.D.	2/5½	1/11½
Welwyn	2/5	1/11½
Welwyn Gar. City	2/6	2/0
Wells (Norfolk)	2/4	1/10½
West Bromwich C.B.	2/6	2/0
Westcliff-on-Sea	2/5½	1/11½
Weston-Super-Mare	2/5	1/11½
Weybridge	2/5	1/11½
Weymouth	2/4	1/10½
Whitby	2/5	1/11½
Whitstable & District	2/4	1/10½
Widnes	2/6	2/0
Wigan	2/6	2/0
Wigton	2/4½	1/11
Willington	2/6	2/0
Wilmslow	2/6	2/0
Winchester	2/4½	1/11
Windermere	2/4½	1/11
Windsor	2/5	1/11½
Wisbech	2/4	1/10½
Witham	2/4	1/10½
Woking (District)	2/4½	1/11
Wokingham	2/4	1/10½
Wolverhampton C.B.	2/6	2/0
Woodbridge	2/4	1/10½
Worcester C.B.	2/5½	1/11½
Workington	2/4½	1/11
Worksop	2/5½	1/11½
Worthing	2/4	1/10½
Wrexham	2/5½	1/11½
Wroxham	2/4	1/10½
Wycombe	2/5	1/11½
Wymondham	2/4	1/10½
Yeovil	2/4½	1/11
York	2/6	2/0

† Plus 2d. per working day.

NOTE.—Carpenters, Joiners and Plumbers in all Towns and Districts receive 2d. per day Tool Allowances.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged on craft processes is 1/7½ per hour. Women introduced to carry out work other than craft processes, 1/4 per hour.

For Building Trade Wages in Scotland, see page 19

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will of course be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery.

BRICKS, &c.

	£ s. d.
First Hard Stocks	5 17 0
Second Hard Stocks	5 7 0
Mild Stocks	4 17 0
Single Rough Stocks	3 16 9
Common Stocks	3 7 9

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job. *In addition*, there will be the Levy under the Bricks (Charges) Order, 1942, of 3s. per 1,000.

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	London Rated Stations per 1,000 s. d.	London Area, North of Thames per 1,000 s. d.
Pressed	60 0	70 0
Keyed	62 0	72 0
Single Bullnose	80 0	90 0
Rustics	80 0	90 0
Whites	80 6	90 0

	£ s. d.
Best blue Pressed Staffs. (London Stns.)	13 9 6
Do. Bullnose (London Stns.)	13 19 6
Blue Wire Cuts (London Stns.)	12 7 0

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.	£ s. d.
2½ in. 13 3 6	3 in. 15 16 6

GLAZED BRICKS (London Stns.). Add 20% to Prices.

Best White Ivory and Salt Glazed	D'ble Str'ich'rs ..	38 10 0
	D'ble Headers ..	35 10 0
Stretcher	..30 0 0	One side&two ends 39 10 0
Headers	....29 10 0	Two sides&one end 40 10 0
Quoins, Bullnose and4½in.	Splays and Flats 36 10 0	Squints 38 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £3 10s. extra over white.

ADD LEVY ON BRICKS, 3/- per 1,000 except Glazed Bricks.

PARTITION SLABS.

Delivered London Area.
12 miles radius Charing Cross.

HOLLOW CLAY PARTITION BLOCKS.
London Brick Company.

Minimum Lorry Loads. Keyed.	s. d.
2" per yd. sup. 120 yds.	2 9
2½" „ „ 110 „	3 0
3" „ „ 100 „	3 7
4" „ „ 84 „	4 1

Half blocks *add* 2s. per yard super to above prices.

CLINKER CONCRETE.

2" per yd. sup. .. 2 11	3" per yd. sup. .. 3 10
2½" „ „ 3 4	4" „ „ 4 10

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 9
Size 12 x 9 x 2½" „ „	3 0
Size 12 x 9 x 3" „ „	3 7
Size 12 x 9 x 4" „ „	4 1

HEMPSTEAD—KEYED TWO SIDES.

12 x 9 x 2" 2 9	12 x 9 x 3" 3 7
12 x 9 x 2½" 3 0	12 x 9 x 4" 4 1

Per yard super d/d. Free on site, London.

Plus 2d. for smooth one side, and 4d. for smooth both sides.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 3½
BEER STONE—RANDOM BLOCK—	
Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. „	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R. .... per ft. cube	4 7
Do. do. delivered on road waggons as above stations .....per ft. cub.	4 7
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	s. d.
F.O.R. Quarries, Wirksworth, Derbyshire. Random blocks from 10ft.and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11
YORK STONE, BLUE—*Robin Hood Quality*.	
Delivered at any Goods Station, London,	
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft. super	5 6
6 in. rubbed two sides, ditto „	6 3
3 in. sawn two sides slabs (random sizes) ..... „	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) .... „	1 8½
1½ in. to 2 in. ditto ..... „	1 4½
HARD YORK—	
Delivered at any Goods Station, London.	
Scrappled random blocks . per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft. super	5 7½
6 in. rubbed two sides, ditto „	6 9
4 in. sawn two sides slabs (random sizes) ..... „	3 5
3 in. ditto ditto .... „	2 8
2 in. self-faced random flags..per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 10s. ; Moulded, 12s. 6d.
Small section cills and copings, 15s.

SAND.

Thames Ballast	11s. 6d. per yd.	delivered 2 miles radius Padding-ton.
Pit Ballast	10s. 0d. „ „	
Pit Sand	12s. 0d. „ „	
Washed Sand	14s. 9d. „ „	
¾ in. Shingle	12s. 0d. „ „	
¾ in. Broken Brick	16s. 0d. „ „	
Pan Breeze	10s. 0d. „ „	

CEMENT.

	£ s. d.
Best British Portland Cement. Standard Specification, delivered London area	
6 ton loads and upwards site.....per ton	2 17 0
1 to 6 tons site	3 0 0
In paper bags or non-returnable jute sacks, 7s. net per ton of cement extra.	
"Ferrocrete" Rapid Hardening Cement	
6 ton loads and upwards site	3 3 0
1 to 6 tons site	3 6 0
In paper bags 7s. per ton extra.	
"Aquacrete" Water Repellent cement, 31/6 per ton on ordinary "Blue Circle" prices. In paper bags 7s. per ton extra.	
Rapid Hardening "Colorcrete" in 6-ton lots	4 18 6
In paper bags 7s. per ton extra.	
"Colorcrete" not rapid hardening, according to colour. In 4 ton lots from 166/6 to 390/6 per ton according to colour (including paper bags)	
"Snowcrete" White Portland Cement (in free paper bags)	11 6 6
Under one ton .....per cwt.	0 13 2
"417" Cement (Ultra Rapid Hardening) Delivered Site London Area in 6 ton lots and upwards	3 18 6
In paper bags 7s. per ton extra.	
Super Cement (Waterproof), bags extra..	4 8 6

£ s. d.	£ s. d.
Roman Cement 8 10 0	Keene's Cement, White 7 0 0
Parian Cement 7 0 0	„ „ Pink 6 10 0

Cementone Colours for cement according to tints, per cwt. from £3 5s. 0d.

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station,

Per 1,000 actual	£ s. d.		£ s. d.
24 by 12	55 2 6	18 by 10	28 15 0
22 by 12	43 7 6	18 by 9	26 18 0
22 by 11	40 5 6	16 by 10	25 15 0
20 by 12	39 2 6	16 by 8	19 17 6
20 by 10	36 0 0		

NOTE: Breakage in transit, purchasers' responsibility.

KING SLIDING DOOR GEAR

Write for fully illustrated booklet showing all types of King Sliding Door Gear

GEO. W. KING LTD HITCHIN HERTS
HITCHIN 1360 (10 lines) | MANCHESTER CENTRAL 3947 | NEWCASTLE 24198 | GLASGOW DOUGLAS 2...

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink ..	4 5 6	Sirapite, Coarse	4 11 6
„ White ..	4 14 6	„ Finish	4 19 6
Pioneer	5 6 6		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	.. 3 7 6	Grey Stone Lime	3 7 0
		Chalk Lime	3 7 0
Granite Chippings	2 4 0	Hair per cwt. ..	3 10 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £3 4s. 0d., 6-ton lots at railway depot.

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	£7 16 0
Ditto hand-made ditto	8 10 0
Ornamental ditto —Machine-made	8 19 0
Hip and valley tiles—Hand-made (per dozen) —Machine-made	17 6 16 6

NOTE: Breakage in transit, purchasers' responsibility.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality	Foot cube. £ s. d.		£ s. d.
Dry English Wainscot Billets ..	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs ..	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak			0 12 6
Jap, Figured Oak			0 13 0
Jap, Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue ..... per cwt.			5 0 0
Liquid glue..... per gallon			1 2 0

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE.

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes 2 in. by 3 in. to 4 in. by 11 in.	47 0 0	58 0 0

PLANED BOARDS.
PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in, by 11 in. } 1 in by 9 in. }	71 0 0

	Per square. s. d.
1 in. plain edge flooring	56 3
1½ in. ditto	70 6
1 in. tongued and grooved	56 3
1½ in. ditto	70 6

MATCHING.

	per square. s. d.
¾ in.	40 3
¾ in.	45 0
1 in.	59 0

PLUMBERS' BRASS WORK.

Delivered in London.
M.O.H.

S.D. BIBCOCKS CRUTCH HEAD, FOR IRON

½ in.	¾ in.
33/-	51/- per doz.

TOILET BIB COCKS FOR IRON.

½ in.	¾ in.
60/-	72/- per doz.

S.D. STOP COCKS FOR IRON.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
33/-	48/-	86/-	209/-	281/-	456/-per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
45/-	77/6	123/-	240/-	372/-	624/- per doz.

DOUBLE NUT BOILER SCREWS.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
5/6	6/8	11/-	24/-	36/-	56/- per doz.

HEAVY CROYDON BALL VALVES.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.
72/-	115/-	144/-	288/-	384/- per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
14/-	18/6	25/9	45/3	64/9	71/6 per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/9	13/6	25/-	37/-	46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1½ × 6 lbs.	1½ × 6 lbs.	2 × 7 lbs.	3 × 7 lbs.
Lead P.	26/-	34/-	55/-	92/- per doz.
Lead S.	34/-	41/-	67/-	115/- per doz.

SOLDER.—Plumbers', 1/7. Tinmen's, 2/1. Blow pipe 2/6 per lb.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—*(contd.)*
See Note at top of preceding page.

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£	s.	d.
R.S. Joists, cut and fitted	£24	0	0
Plain Compound Girders	26	10	0
Stanchions	29	0	0
In Roof Work "	37	10	0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£	s.	d.	Diameter.	£	s.	d.
¼ in.	23	5	0	⅝ in.	21	15	0
½ in.	22	15	0	¾ in. to 2¾ in.	21	5	0
⅞ in.	22	5	0				

WROUGHT TUBES AND FITTINGS.
Deliveries from works.
Deliveries from London stock further 2½% gross.
10/17

	Tubes. ¼"/6" %	Tubulars. ½"/6" %	and 19/24" %	¼"/2" %	Flanges. 2½"/6" %
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv. lightweight	30	—	30	30	30
Galv. heavyweight	20	20	20	20	20

Tubes and tubulars sizes ⅛"/⅜" inclusive, charged extra of 5% less gross.
Fittings. Figs. 25/34 5% less gross discount.
Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works, per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/10	1/7	5d.
3½ in.	2/1	1/10	5d.
4 in.	2/1	1/11	9d.
4½ in.	2/2	2/3	10d.
5 in.	2/7	2/6	1/-

O.G. GUTTERS.

3 in.	2/4	2/2	6d.
3½ in.	2/8	2/2	9d.
4 in.	2/8	2/3	10d.
4½ in.	2/10	2/7	1/-
5 in.	3/5	3/-	1/1

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends. Angles.	Branches.
2 in.	2/10	1/11	2/11
2½ in.	2/11	2/3	3/5
3 in.	3/8	2/10	4/2
3½ in.	4/4	3/4	4/10
4 in.	4/11	4/-	5/10

NETT PRICES.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	4/4	3/5	4/2
2½ in.	4/9	3/9	5/2
3 in.	5/3	4/1	6/3
3½ in.	5/5	5/-	7/2
4 in.	6/-	5/8	8/5

L.C.C. COATED DRAIN PIPE.

cwt. qr. lbs. in 9 fts.	per yard.	Bends.	Branches.
4 in. 1 1 17	8/11	8/5	14/10
6 in. 2 0 1	13/3	17/6	30/4

Gaskin, 80/- per cwt.

	Per ton basis in London. £	s.	d.
IRON.—Staffordshire Crown, Merchant quality	20	15	0
IRON.—Staffordshire Marked Bars	21	10	0
Mild Steel Bars	19	15	0
Mild Steel Hoops	21	10	0

Ex Merchant's Stock, per ton (two-ton lots).

Soft Steel Sheets, C.R. and C.A.—			
20 gauge	24	17	6
24 gauge	25	2	6
26 gauge	25	17	6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—			
20 gauge	27	0	0
24 gauge	27	10	0
26 gauge	28	15	0
Galvanised Flat Sheets, C.R. and C.A.—			
20 gauge	28	10	0
24 gauge	29	0	0
26 gauge	30	5	0

	Per ton. £	s.	d.
Cut Nails, 3 in. and up	28	10	0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 2s. 4d. to 2s. 7d. per foot super.

PAINTS, &c.

		£	s.	d.
Raw Linseed Oil (5 galls.)	per gallon	0	7	8
Boiled Linseed Oil (5 galls.)	"	0	8	0
Genuine White Lead (free kegs)	cwt.	3	13	9
Genuine White Lead Paint (tins free)	gall.	1	13	0
Genuine Red Lead	cwt.	2	17	0
Linseed Oil Putty (free packages)	cwt.	1	8	3
Utility Putty (free packages)	"	1	4	9
Size, XD quality	fkn.	0	4	9

Turpentine substitute can be obtained and prices vary according to quality from 3/8 gallon upwards.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from January 1, 1946. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	2/6	2/5½	2/5	2/4½	2/4	2/3½
Labourers	2/-	1/11½	1/11	1/10½	1/10	1/9½

Aberdeen	A	Dumfriesshire	A2	Inverness	*	Perthshire	A2
Ayrshire	A	Dundee	A	Inverurie	A1	Peterhead	A1
Banff	B	Dunoon	A	Kincardineshire	A2	Renfrewshire	A
Berwickshire	A2	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A2
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A2
Doune	A	Forfarshire	A2	Moray and Nairn	B	Stewartry	A2
Dumblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A2	Stornoway	A2
Dumfries	A1	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

* This town has its own rates.

The Scottish N.J.C. award on which this is based does not provide for any variation to current rates of Apprentices' wages, which will be considered by the General Council of the Apprenticeship Scheme. The information given in this table is copyright. Rates of wages in England and Wales are given on page W.

VARNISHES, &c.

		Per gallon. £	s.	d.
Oak Varnish	Outside	0	16	0
Fine do.	"	0	18	0
Fine Copal	"	1	0	0
Pale Copal	"	1	2	0
Pale Opal Carriage	"	1	6	0
Best do. do.	"	1	14	0
Floor Varnish	Inside	1	0	0
Fine Pale Paper	"	1	0	0
Fine Copal Cabinet	"	1	4	0
Fine Copal Platting	"	1	2	0
Hard Drying Oak	"	1	0	0
Fine Hard Drying Oak	"	1	1	6
Fine Copal Varnish	"	1	2	6
Pale do.	"	1	14	0
Best do.	"	1	4	6
Best Japan Gold Size	"	1	14	6
Best Black Japan		0	12	0
Oak and Mahogany Stain (water)		0	14	0
Brunswick Black		0	9	6
Berlin Black		0	16	0
Knotting (patent)		0	17	0
French and Brush Polish		0	14	0
Liquid Dryers in Terebene		0	11	0

LEAD, &c.

(Delivered in London 5 cwts.)	Per ton. £	s.	d.
LEAD.—Sheet, English, 3½lb. and up	42	10	0
Pipe in coils	44	0	0
Soil pipe	46	0	0
Compo pipe	48	10	0

NOTE.—Country delivery, 10/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 3/- per cwt. extra. Extra if cut to size.

Old lead, ex London area, per ton £23 0 0. Buyers pay carriage.

Whenever your scheme calls for

METAL WINDOWS

built specially to suit your own requirements always specify

AYGEE

LIMITED

of

100, Westminster Bridge Road
LONDON - - S.E.1
'Phone: WATerloo 6314 (6 lines)

for

Distinctive Metal Windows

The Hall Mark AYGEE *of Craftsmanship*

THE SCOTTISH BUILDER

NEW BUILDINGS

GLASGOW.—Plans prepared for alterations and additions for the University of Glasgow at Horsewoodhill, for which the architect is W. Smith, 204, George-st., Glasgow.

GLASGOW.—Plans prepared for alterations and additions for the Gourock Rope Work Co., Ltd., by Burnet & Boston, 180, Hope-st., Glasgow.

Domestic Plugs and Socket-Outlets.

A final decision on the standardisation of plugs and socket-outlets has now been taken by the Electrical Industry Committee of the British Standards Institution to standardise an all-purpose domestic plug and socket-outlet of the same dimensions (as regards interchangeability) as the 5-ampere size in B.S. 546 but rated at 3 kW. (13 amperes at 230 volts). This decision reverses a previous decision of the Electrical Industry Committee of the B.S.I. A new British Standard Specification embodying modifications to the present B.S. 546 will be prepared at an early date.

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY CUT SIZES.

	Per ft. super. d.
18 oz.	3½
24 oz. Clear or " R " quality	5
26 oz.	6½
32 oz.	8½

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft.
Rolled plate, ¼ in.	6½d.
Rough cast double rolled, ⅛ in.	7d.
Rough cast double rolled, ¼ in.	7½d.
Figured rolled, and Cathedral, white	6½d.
Figured rolled and Cathedral, tinted	9½d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	10½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s.	d.
Wire Rolled, ¼ in. thick	0	9½
Wire Cast, ¼ in. thick	0	9½
Georgian Wired Cast	0	10
" Calorex " Sheet, 21 oz.	2	6
" " 32 oz.	4	0
" Cast, ¼ in. thick	0	9½
" " ⅛ in. thick	1	0
" " ¼ in. thick	1	2
Non Actinic Glass, ¼ in. thick	0	9½
" " " ⅛ in. thick	1	0
" " " ¼ in. thick	1	2

" VITA " GLASS.

	Per ft. s.	d.
" Vita " Plate Glass, about ⅝ in. thick— To 7 ft. super	5	0
Over 7 ft. super	7	6
" Vita " Sheet Glass, about 18/20 oz.	2	0
Cathedral " Vita " Glass : ¼ in. thickness	2	0
⅜ in. "	3	0
⅜ in. Georgian Wired " Vita " Glass	3	6

HOLLOW GLASS BLOCKS.

		s.	d.	
P.B. 1—8 in. × 4½ in. × 3½ in.		2	9	each net
P.B. 2—5½ in. × 5½ in. × 3½ in.		2	6	"
P.B. 3—7½ in. × 7½ in. × 3½ in.		3	6	"
P.B. 32—7½ in. × 7½ in. × 3½ in.		3	6	"
Radiused Corner Brick to match up with—				
P.B. 2		4	6	each net
P.B. 3		6	0	"
P.B. 32		6	0	"

(*Continued from page 16.*)

and the subscription rate is 3d. a week on both sides, the employer undertaking to pay 3d. a week for every apprentice in his employment who joins the Association.

A fund amounting already to over £2,000 has been raised among members of the L.M.B.A. to give the Association a send-off. Area committees of local employers, operatives and apprentices are now being formed to organise clubs in their areas.

Mr. Tom Smith, the secretary-manager of the Association, is a well-known ex-professional football player and referee. He has had an extensive experience in organising sport among young people. Until recently he was sports manager and assistant welfare officer in a big aircraft works near London.

The headquarters of the new Association are, temporarily, at 7, Princes Street, Westminster, S.W.1. Telephone No. Whitehall 2840.

FUTURE CONSTRUCTION

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JANUARY 9.

†***East Suffolk C.C.**—Erection of 2 huts with brick wall panels for kitchen and dining room at Bungay Grammar School. County A. Dep. £2 2s. Tenders by January 31.

†**Oundle U.D.C.**—4 pairs of houses at New-rd, site. J. Ford, C

JANUARY 10.

†***Bullingdon R.D.C.**—20 houses on 4 sites. H. W. Smith (F.), 29, George-st., Oxford. Dep. £1 1s.

†**Caistor R.D.C.**—44 houses at various sites. Sheppard, Lockton and Saunders, 24, Castle Gate, Newark-on-Trent. Dep. £3 3s.

†***Torquay T.C.**—6 houses at Salisbury-ave., Barton estate. P. W. Ladmore, M.Inst.C.E., B.E. Dep. £5 5s.

JANUARY 11.

Uxbridge U.D.C.—30 houses at St. John's-rd. Wm. L. Byes (F.), 54, High-st., Uxbridge. Dep. £2 2s.

JANUARY 12.

†**Leiston-cum-Sizewell U.D.C.**—5 pairs of houses at St. Margarets-cres. C. Tenders by January 31.

Tettenhall U.D.C.—Conversion of "New Inn" into flats. S. Dep. £1 1s.

†**Wycombe R.D.C.**—28 houses at Loudwater and 6 bungalows at Kimble. Brocklehurst and Cooper, Architects, Crendon-st., High Wycombe. Dep. £2.

JANUARY 14.

†***Ilminster U.D.C.**—20 houses at Butts site. H. S. W. Stone and Partners, Lloyds Bank-chbrs., 7, Fore-st., Taunton. Dep. £2 2s.

JANUARY 15.

Banstead U.D.C.—53 houses at Horsecroft Meadow estate. C., Council Houses. Dep. £2 2s. (Plans inspected at office of A. W. Kenyon (F.), 15, Adeline-pl., Bedford-sq., W.C.1.)

***Basingstoke R.D.C.**—(1) 1 pair of old peoples' dwellings and 3 pairs of houses at Milking Penla., Old Basing; (2) 4 pairs of old people's dwellings, 4 blocks of 4 houses and 14 pairs of houses at Sherborne St. John. Poulson and Hardy, 46, Catherine-pl., Westminster, S.W.1. Dep. £2 2s. Applications should be made as soon as possible.

Bootle C.B.—16 bungalows at Southport-rd. and 6 houses at Aintree-rd. and Timon-ave. B.E. and S. Dep. £2 2s.

Ellesmere Port U.D.C.—Re-erection of 4 houses at Grange Farm estate. E. and S. Dep. £1 1s.

Guckfield R.D.C.—Block of 3 houses nr. Grange-rd., Crawley Down. E. and S. Dep. £2 2s.

Erith T.C.—18 houses at Riverdale-rd. J. H. Clayton, B.E. and S. Dep. £1 1s.

Esher U.D.C.—14 cottages at Island Farm-rd. housing scheme, West Molesey. E. and S. Dep. £2 2s.

Littlehampton U.D.C.—72 houses and 6 bungalows at Hill-rd. site. J. A. Young, M.Inst.M. & Cy.E. E. and S. Dep. £2 2s.

Tamworth T.C.—40 houses at Paxeley-rd. site. B.E. and S. Dep. £2 2s.

JANUARY 16.

Berwick-upon-Tweed.—40 houses in 3 groups at Shielfield-terr., Tweedmouth. B.S. Dep. £3 3s.

Portsmouth T.C.—(1) Completion of block of 54 flats. City A., 1, Western Parade, Southsea. Dep. £3. (For contracts No. 2 and 3 see December 29 date.)

JANUARY 17.

***Lincoln T.C.**—268 houses in 6 groups at Boultham Moor estate. City E. and S. Dep. £3 3s.

York T.C.—Alterations at "Ashfield," Dringhouses, for Technical College accommodation. City E. and Architect. Dep. £1.

JANUARY 18.

Buckingham R.D.C.—Foundations, party walls, chimneys, drainage, etc., and erection of superstructure for provision of 8 Swedish houses. F. T. Jennings, S. Dep. £2 2s.

†**Merton and Morden U.D.C.**—35 houses in 3 groups. E., Morden Hall. Dep. £3 3s. Tenders by February 16.

Pershore R.D.C.—30 houses on 5 sites. Pemberton & Bateman (F. and A.), 29, High-st., Evesham. Dep. £2 2s.

***Ploughley R.D.C.**—14 houses at Bletchingdon. F. E. Openshaw (A.), 65, St. Giles-st., Oxford. Dep. £2.

JANUARY 19.

Abergavenny R.D.C.—30 houses at 4 sites. J. M. Jones, architect, St. Mary's-chbrs., Abergavenny. Dep. £3 3s.

Chippenham T.C.—30 houses at Derriads. B.E., The Old Palace, 10, Market-pl. Dep. £2 2s.

JANUARY 21.

Barmouth U.D.C.—(a) 26 houses, (b) roads and sewers at recreation ground. S. Dep. £5.

Clayton-le-Moors U.D.C.—8 bungalows at John-st. site. S. Dep. £2 2s.

†***Isle of Ely C.C.**—Structural alterations and redecoration at the Baptist Hall, Haddenham, to form kitchen. R. D. Robson (A.), County A., County Hall, March. Dep. £2 2s.

Littleborough U.D.C.—32 houses at Shore estate. G. F. Wild, E. and S. Dep. £2 2s. (cheques only).

Preston C.B.—688 houses at Ribbleton Hall estate. Granville Berry, A.M.Inst.C.E. B.S. Dep. £3 3s.

†**Rothesay T.C.**—Work in various trades for erection of 78 houses at Bush site. R. D. Whyte, T.C.

Salisbury T.C.—72 houses at The Drove, West Farnham. City E. Dep. £2 2s.

Selby U.D.C.—50 houses at Abbot's-rd. E. and S., 12, Park-st. Dep. £2 2s.

†***Southgate T.C.**—76 houses at Barrowell Green site. B.E. and S. Dep. £2 2s.

Woking U.D.C.—26 houses at 3 sites. H. P. Tame, A.M.Inst.C.E., Registered Architect, E. and S. Dep. £2 2s.

JANUARY 22.

***Southwick U.D.C.**—12 houses at Ridgeway housing scheme. E. A. Coates, M.Inst.M.&Cy.E., E. and S. Dep. £3 3s.

JANUARY 22 (extended date).

***Lewes T.C.**—40 houses at Site 1a, Landport estate. C. T. Butler (L.), B.S. Dep. £2 2s.

JANUARY 23.

***Alton R.D.C.**—4 pairs of Swedish houses at Lower Froyle. C., 38, High-st. Dep. £10 10s.

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JANUARY 24.

Portsmouth T.C.—Repair and reconstruction of mass and reinforced concrete quay walls and incidental works at Camber. City E. Dep. £2 2s.

West Dean R.D.C.—12 houses at Yorkley Slade No. 1 site. H. F. Trew, Architect, Burleigh House, Nettleton-rd., Gloucester. Dep. £2 2s.

JANUARY 25.

Devizes T.C.—Conversion of Hillworth House into 6 tenements. B.S.

JANUARY 26.

Eccles T.C.—60 houses and 14 bungalows at Peel Green-rd. B.E. and S. Dep. £2 2s.

Wellington (Som.) U.D.C.—24 houses and 12 flats at Doctors' Meadow site in 2 contracts, Rockwell Green. E. T. Howard, Chartered Architect, 67, High-st., Wellington, Som.

JANUARY 28.

Devizes T.C.—12 houses at Brickley-la. site. B.S. Dep. £2 2s

Frome R.D.C.—46 houses at various sites. J. Rogers, Architect, Radstock, nr. Bath. Dep. £1 1s.

Pontefract T.C.—Construction of reinforced concrete-covered reservoir. B. and Water E. Dep. £3 3s.

Southport C.B.—84 houses at Site No. 3, Russell-rd. B.E. Dep. £2 2s.

JANUARY 31.

Tyldesley U.D.C.—40 houses at Astley-st. site, No. 2. N. Chamberlain, F.S.I., E. and S. Dep. £3 3s.

NO DATE.

Pontypool U.D.C.—40 houses with drainage, site work, etc., at Varteg-rd., Garndiffaith. C. Dep. £5.

***Wirral U.D.C.**—12 houses at Heswall. W. F. Roberts, C.

MISCELLANEOUS

JANUARY 15.

Bournemouth C.B.—Demolition of military defence works and reinstatement works on sea front. B.E.

JANUARY 18.

Aberdare U.D.C.—Demolition and removal of 88 shelters. E. and S.

JANUARY 19.

Worthing R.D.C.—(Clearance of Military Defence obstacles from foreshore. E. and S., 15, Mill-rd., Worthing. Dep. £1 1s.

JANUARY 21.

Limehurst R.D.C.—Demolition and removal of 73 brick and concrete shelters. E. and S. Dep. £1 1s.

Tynemouth C.B.—Demolition of shelters, wardens' posts, communal shelters and static water tanks. B.S

JANUARY 26.

Eccles T.C.—Demolition and removal of brick and concrete shelters, etc. B.E. and S.

***Walthamstow E.C.**—Filling in and making good anti-tank trenches and fly-bomb crater at Salisbury Hall schools playfield. F. H. Heaven (A.), Old Monoux-bldg., High-st., Walthamstow, E.17.

JANUARY 31.

Tyldesley U.D.C.—Complete demolition and removal of shelters. E. and S. Dep. £1 1s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

JANUARY 18.

Southgate B.C.—B.E. and S.

JANUARY 19.

Burton-on-Trent C.B.—B.E. and S.
Farnborough U.D.C.—E. and S.

JANUARY 28.

Bootle C.B.—B.E. and S.

JANUARY 31.

Hunts C.C.—County S.
Lambeth B.C.—B.E. and S.

FEBRUARY 4.

Rhondda U.D.C.—E. and S.

ROADS, SEWERAGE AND WATER WORKS

JANUARY 14.

Herne Bay U.D.C.—Preparation of housing site. E. and S. Dep. £2 2s.

Lindale U.D.C.—Roads and sewers. H. A. Rolls, chartered architect, 15, Bridge-st., Leighton Buzzard. Dep. £2 2s.

Southborough U.D.C.—Roads and sewers, Manor-rd. site. C. Dep. £2 2s.

Southborough U.D.C.—Roads and sewers, North Farm-rd. and Stewart-rd., High Brooms. S. Dep. £2 2s.

Southborough U.D.C.—Laying approx. 1,340 yds. of 3-in. and 4-in. spun iron water pipes, etc., Manor-rd. site. C.

Widnes T.C.—Construction of Cronton Booster station. T.C. Dep. £2.

JANUARY 15.

Bradford and Melksham R.D.C.—Roads and sewers at Broughton Gifford. R. P. Pearce, Architect, Abbey House, Bradford-on-Avon. Dep. £2 2s.

Seaton U.D.C.—Roads and sewers at Sealwell-la. site. S. Dep. £2 2s.

JANUARY 16.

Liverpool T.C.—Roads and sewers at Cantril Farm estate. Director of Housing, Blackburn-chrs., Dale-st., Kingsway, Liverpool, 2. Dep. £1 1s.

Penarth U.D.C.—Roads and sewers at Wordsworth-ave. E. and S. Dep. £2 2s.

Stratford-on-Avon R.D.C.—Construction of 13,800 lin. yds. of 5-in., 4-in. and 3-in. dia. water mains, etc., in 3 districts. Willcox, Raikes and Marshall, 33, Gt. Charles-st., Birmingham, 3. Dep. £5 5s.

JANUARY 17.

Stoke-on-Trent T.C.—Street works and sewers at Michelin housing site. City E. and S. Dep. £3.

Tynemouth C.B.—Construction of Brewer's-la. outfall sewer. B.E. Dep. £2 2s.

JANUARY 19.

Sutton Coldfield T.C.—Construction of approx. 430 yds. of 24 in. diameter sewer in concrete pipes. B.E. and S. Dep. £1 1s.

JANUARY 21.

Caterham and Warlingham U.D.C.—Road widening and construction of sewers at Crewes-la.

JANUARY 22.

Duncon T.C.—Roads and sewers at Arden-slate site. Burgh E. Dep. £1 1s.

JANUARY 25.

Beverley T.C.—Roads and sewers at Riding Fields estate. B.E. and S. Dep. £2 2s.

JANUARY 26.

Oswestry T.C.—Roads and sewers at Shrewsbury-rd. estate. B.S. Dep. £2 2s.

JANUARY 28.

Tynemouth C.B.—Streets and sewers at Broadway "A" site, Cullercoats. B.S. Dep. £2 2s.

JANUARY 31.

Merthyr Tydfil C.B.—Reconstrution of main sewer. Sir Herbert Humphries and McDonald, Consulting E., 369, Birmingham-rd., Wylde Green, Birmingham. Dep. £5 5s.

PUBLIC APPOINTMENTS

*Full details of Public Appointments marked * are advertised elsewhere in this issue. Those marked † have been advertised in previous issues.*

JANUARY 12.

***Bristol T.C.**—(1) 4 Assistant Architects for Housing; (2) 4 Assistant Architects experienced in Hospitals.

***Darlington C.B.**—Architectural Assistant.

Northampton E.C.—Assistant Architect.

JANUARY 14.

†Southport C.B.—Assistant Clerk of Works.

†Stoke-on-Trent T.C.—Deputy Chief Architect.

JANUARY 15.

†Bucks C.C.—County Architect.

***Epping U.D.C.**—Clerk of Works.

***Hove T.C.**—Architectural Assistant.

†Leeds T.C.—Planning Assistant.

†Somerset C.C.—County Planning Officer.

JANUARY 16.

†London County Council.—Full-time teacher of Structural Engineering Subjects, Brixton School of Building.

JANUARY 18.

†Grantham T.C.—Junior Technical Assistant.

***Edmonton T.C.**—Town Planning Assistant.

†Norfolk C.C.—Quantity Surveyor.

***Worcs. C.C.**—(a) Principal Assistant Architect; (b) Architect's Assistant; (c) Clerk of Works; (d) Mechanist.

JANUARY 19.

***Horsham R.D.C.**—Buildings and Works Inspector.

***Mitcham T.C.**—(1) Senior Town Planning Assistant; (2) Town Planning Assistant; (3) Temporary Town Planning Assistant.

***Solihull U.D.C.**—Senior Quantity Surveyor.

***Watford T.C.**—Assistant Architect.

JANUARY 21.

***Beckenham T.C.**—Temporary Architectural Assistant.

***Blackwell R.D.C.**—Architectural Assistant.

***Bootle C.B.**—(a) Chief Quantity Surveyor; (b) Quantity Surveyor; (c) Chief Building Inspector.

†Fulham B.C. — Temporary Architectural Assistants.

***Rochester T.C.**—Architectural Assistant.

JANUARY 22.

***West Ham Municipal College.**—Instructor in Brickwork.

JANUARY 24.

***Chester T.C.** — (a) Senior Engineering Assistant; (b) Senior Architectural Assistant.

JANUARY 25.

†Admiralty Civil Engineer-in-Chief's Dept.—Designers and Detailers.

†Overseas Employment.—(a) Waterworks and Drainage Engineer, (b) General Engineer, Cawnpore Development Board.

JANUARY 26.

***Glasgow T.C.**—Civil Engineering Assistants, first and second class; Quantity Surveyors, first and second class.

***Surrey C.C.**—Architectural Assistant.

***Surrey C.C.**—Junior Architectural Assistant.

FEBRUARY 11.

†University of Liverpool T.C.—Full-time of Ungraded Lecturer and Studio Instructor at School of Architecture.

NO DATE.

***Overseas Employment.**—General Foreman for Trinidad Govt.

***Overseas Employment.**—Inspector of Works, Nigeria P.W.D.

GENERAL BUILDING WORK

Barnard Castle.—U.D.C. approved post-war housing plan for 250 houses.

Bury.—T.C. propose to resume work on partially erected town hall.

Daventry.—British Legion Association members' headquarters on housing estate.

Durham.—County Standing Joint Committee to erect 500 police houses. Plans by W. J. Merrett, 43, Old Elvet, Durham, County S.

Heywood.—T.C. approved school canteen at John-st., for M.O.W.

Lewisham.—B.C. propose block of 129 flats at Hither Green-la., at £161,000.

Limehurst.—Lancs E.C. propose school clinic at New-st., Waterloo.

Liverpool.—E.C. propose Municipal school at Oulton extension site.

Liverpool.—T.C. to acquire land at Cantrill Farm estate for housing site; to seek permission to erect 350/400 houses of "Uco" type, 1,442 "Arcon" bungalows in lieu of American bungalows. E.C. school dining hall and kitchen on Garmoyle-rd., Wavertree.

London (Westminster).—T.C. to carry out conversion work at Alhambra House, Charing Cross-rd., at £6,960.—Millbank Wharf to be demolished at cost of £7,500, Rendel, Palmer & Tritton, engineers; Edgar Ranger, F.R.I.B.A., architect, and L. W. Myers, F.S.I., quantity surveyor, appointed for adapting 63-5, Cumberland-st. as hostel for aged persons, at £3,000.—Tenders to be invited for repairing timber roof of Buckingham Palace-rd. baths, estimated at £1,650.

Manchester.—Manchester and Salford Savings Bank, Ltd., Booth-st., propose branch bank at Second-ave., Trafford Park. T.C. approved: Additions, Britannia Mills, Hulme Hall-rd., for T. Goldsworthy & Sons, Ltd.; additions to works, Stokes-st., Clayton, for Metal Box Co., Ltd.

Manchester.—T.C. approved: Additions to factory, Renshaw-st. and Daisy-st., Hulme, for British Cellulose Industries, Ltd. P. Cummings (F.), architect, 16, Oxford-st.; additions to factory, Tortworth-st., Strangeways, for London Waterproof Co. (Silkimac), Ltd., Drury & Gomersall (L.), architects, 11, Imperial-bldgs., Oxford-rd., Chorlton-upon-Medlock.

Mansfield.—T.C. approved layout for 159 houses at Bancroft-la. estate and 84 houses at Goodacre estate, also erection of "Duplex" houses for aged persons at Racecourse estate.

Newport.—Shropshire E.C. propose school canteen kitchen at Childs Ercall.

Northwich. — U.D.C. propose Memorial Assembly Hall, at £25,000.

Scarborough.—T.C. propose 160 houses at Barrowcliffe estate, at £150,000.

Sunderland.—E.C. approved schemes for schools, at £868,500.

Stockport.—T.C. propose community centre at Adswood.

Tewkesbury.—B. Myers & Co., of Oxford and London to erect factory at Newtown, at £30,000.

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TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Aireborough.—50 houses at Springfield Farm estate, for U.D.C. F. Tunnell, B.Sc., Assoc.M. Inst.C.E., E. & S.: *Mitchell Yeadon & Sons, Ltd., Westfield, Yeadon, nr. Leeds, £48,539.

Altrincham.—25 pairs at Grange Farm estate, Timperley, for T.C. E. M. Slater, A.M.I.C.E., B.S.: *Marsden & Chapman, Ltd., Bedford-dr., Timperley, Altrincham.

Ceiriog.—28 houses and service roads at three sites, for R.D.C. R. W. Aubrey, S.: *Francis Roberts & Sons, Ltd., Trevor, Wrexham, 12 houses and roads, £12,749; *Amos Phillips, Glanllyn, Glyncoiriog, Wrexham, 16 houses and roads, £15,870.

Cirencester.—100 "Easiform" houses, for U.D.C.: *J. Laing & Son, Mill Hill, N.W.7, £109,367.

Colchester.—Construction of brick pumphouse at Aldham borehole, for T.C. B.E.: *F. Taylor (Colchester), Ltd., 115, North Station-rd., Colchester.

Chorley.—Eight Swedish houses at two sites, for R.D.C. W. Groves, S.: *G. Hill & Sons, Preston, £2,805 and £2,652.

Coulsdon and Purley.—100 houses at Limpsfield-rd., Sanderstead. A. W. Kenyon (F.), 15, Adeline-pl., Bedford-sq., W.C.1: *Joseph Cartwright, Ltd., 100, King's-av., London, S.W.4, £109,909.

Darlington.—72 houses at Nickstream-la., for T.C. E. Minors, B.E.: *G. Dougill & Sons (14); *Bussey & Armstrong (22); *Dunn & Dunwell (6); *Brown & Dixon (4); *T. E. Robson (4); *R. G. Oates & Son (6); *H. W. Andrew (8); *J. W. Richardson (8). All Darlington builders.

Ealing.—240 houses at South-East Northolt Housing estate, for T.C.: *Davis Contractors, Ltd., £316,913 (subject to approval).

Felling-on-Tyne.—Erection of Government training centre: *R. Carse & Sons, Oldgate, Morpeth.

High Wycombe.—82 houses at Hatters Farm estate, for T.C.: *J. D. Eadie & Co., Ltd., Wolverhampton, £1,012 per house.

Huntingdon.—Houses for R.D.C.: 12 at Great Stukeley: *F. B. Thackray & Co., Ltd., Dryden's-walk, Huntingdon; 12 at Spaldwick, six at Keyston and six at Molesworth: *Loakes & Pettit, Ltd., Bridge-st., Thrapston; 22 at Sawtry: *V. Goodwin, Yaxley, nr. Peterborough; 20 at Brampton, four at Leighton: *M. J. Allen & Son, Chains Brampton, Huntingdon; six at Buckworth: *S. Brawn, Brampton, Huntingdon; four at Hammerton: *J. W. Smith, Buckden, nr. Huntingdon.

Lancashire.—Works for E.C. G. Noel Hill (F.), County A., County Offices. Central kitchen at Haslingden, Warner-st.: *Jas. Whittaker & Sons (Blackburn), Ltd., Bastwell, Blackburn, £3,878; central kitchen at Shevington Broad-o'-th'-Lane school, nr. Wigan: *G. & J. Seddon, Ltd., 3-5, Manchester-rd. West, Little Hulton, nr. Bolton, £3,958.

Liverpool.—136 houses at Brook House estate, Huyton, for T.C.: ‡Unit Construction Co., Ltd., £134,848.

Liverpool.—School canteen, Gilmour Heath-rd. County school, for E.C. L. H. Keay (F.), City A., Blackburn-chbrs., Dale-st., Kingsway: *Henry Boot & Son, Ltd., Church-rd., Litherland, Liverpool 21, £1,540.

London (Air Ministry).—List of contracts to value of £500 or over for period ended December 29:—*General maintenance work*, Arnold Ingham & Sons (Bldrs.), Ltd., St. Annes-on-Sea; F. Parkinson & Son, Blackpool; Galbraith Bros., Ltd., London, W.C.1; Lewis & Watters, Leamington Spa; M. & F. O. Foster & Co., Ltd., Hitchin, Herts.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended December 15, 1945:—

Lancs: Miscellaneous work, Thos. Whittaker & Son, Fleetwood. *Lincs*: Miscellaneous work, J. Burbidge, Grantham. *Derbyshire*: Miscellaneous work, Beddoes & O'dair, Tean, Stoke-on-Trent. *Shropshire*: Electrical work, B. French, Ltd., Kidderminster. *Warwickshire*: Miscellaneous work, Stowe & Co., Leamington Spa. *London*: Miscellaneous work, Mattock & Parsons, Ltd., London, W.C.1. *Hampshire*: Pitchmastic flooring, Neuchatel Asphalte Co., Ltd., Staines, Middx.

London (War Dept.).—Works contracts placed by War Dept. for week ended December 22.

Yorks: Miscellaneous work, H. H. Brook (Contractors), Ltd., Sowerby Bridge; pitch mastic flooring, Associated Asphalt Co., Ltd., London, S.W.7. *Lincs*: Miscellaneous work, W. J. Mumford, Spalding.

Lowestoft. — Secondary school canteen kitchen: *Comben & Wakeling, Halesworth, £3,338.

Manchester.—Works canteen for S. & J. Watts & Co., Ltd., Portland-st.: *L. Brown & Sons, Ltd., Macclesfield-rd., Wilmslow, Ches.

Middlesbrough.—57 "Arcon" houses at Cargo Fleet-la., for T.C.: *Thornton Construction Co., Ltd., Bridge-rd., Stockton (subject to

M.H. consent); 147 "Arcon" houses at Cargo Fleet-la., for T.C.: *Thornton Construction Co., Ltd., Bridge-rd., Stockton.

Newport (Mon.).—66 Duplex houses at Alway Farm site, for C.B. Johnson Blackett (F.), Boro' A., Town Hall: *Ernest C. Jordan & Son, Central-chbrs., Stow Hill, Newport, Mon., £64,672.

Northamptonshire.—Erection of police houses, for O.C. Standing Joint Committee. J. Perkins (L.), County A., County Hall, Guildhall-rd., Northampton: *W. Thompson & Sons, Ltd., Pinedon-rd., Irthlingborough, Northants.

Oakham.—Eight houses at Cold Overton-rd., for U.D.C. H. Tabberer, S.: *J. S. Clark, Langham, Oakham, £6,800.

Pershore.—Site works and erection of six Swedish houses at Pinvin, for R.D.C. Pemberton & Bateman, architects, 29, High-st., Evesham: *F. Allard & Sons, Worcester-rd., Evesham, £3,706; four permanent houses at Lower Moor: *Espley & Co., 77, High-st., Evesham, £4,968; 22 permanent houses at Great Comberton: *F. Allard & Sons, Worcester-rd., Evesham, £29,743.

Rawcliffe.—Houses for R.D.C. J. F. Chambers (L.), 87, Boothferry-rd., Goole. 14 at Rawcliffe: *Durham & Ramsey, Ebenezer, 16, Butt-la., Snaith, Goole, £12,380; 12 at Swinefleet: *R. K. Poskitt (Beal), Ltd., Beal, Goole, £12,372; eight Swedish houses, Rawcliffe: *A. M. Cook, Victoria-st., Goole, £4,815.

Scarborough.—Nine houses at Potter-la.: *C. Day, Scarborough.

Sheringham.—12 houses at Pine Grove estate, for U.D.C. R. W. Fetherstone, F.F.A.S., registered architect, St. Peter's-rd., Sheringham: *H. Bullen & Sons, Cromer, £12,696.

Stockport.—Youth Club and Institute for Y.M.C.A. Committee. W. F. Gardner, Hon. Architect, Town Hall: *Thos. Davies & Son (Contractors), Ltd., Croft Mill, Turncroft-la., Stockport.

Sutton-in-Ashfield. — Houses for U.D.C. Warner & Dean, architects, Mansfield-rd. 36 type "A" and 38 type "D" Hardwick-la. Housing scheme extension 7: *Stokes, Taylor & Shaw, Ltd., John-st., Sheffield; 44 type "A" and 30 type "D" Alfreton-rd. housing site, extension 2: *J. Searson, Station-rd., Sutton-in-Ashfield, Notts.

Swadlincote.—68 "Duplex" houses, comprising 136 flats at Meadow View-rd., Newhall, for U.D.C.: *A. H. Taylor (Nottingham), Ltd., 151, Attenborough-la., Notts, £106,943 (subject to M.H. approval).

Tetbury.—32 houses, including nurses' home, for R.D.C.: *Holborow & Sons, Ltd., Tetbury, £35,638 (subject to M.H. approval).

Winslow.—22 houses, for R.D.C.: *W. E. & H. C. Roberts, Wing; *Gibbard & Ingram, Winslow. Total cost, £26,199.

Uttoxeter.—26 houses at Weaver Lodge estate, for U.D.C. S. Proud, S.: *Percy G. Trentham, Ltd., Wood-la., Erdington, Birmingham 24, £29,406, plus £20 per house for travelling expenses, wet weather and guaranteed time.

Wanstead and Woodford T.C.—7 blocks of 2-storey flats and 72 houses at Glengall No. 2 estate, Woodford Green. Tooley and Foster, Midland Bank-chbrs., Buckhurst Hill, Essex. Quantities by Thurgood, Son and Chidgey. *Allen, Fairhead & Sons, Ltd., Sydney-rd., Enfield, £108,866.

Wellingborough.—Houses for R.D.C. H. W. Sheffield, S. Site works and erection of 20 Swedish houses on approved sites: *Hutchins & Streeton, Earls Barton, Wellingborough, £3,577; 20 brick houses, Irchester: *Potter & Sons, High-st., Stanwick, Wellingborough, £22,962.

Whitehaven.—Kitchen at Monkway school, for M.O.E.: *Demolition & Construction Co., Ltd., 34, Moorfields, Liverpool 2.

Wirksworth.—14 houses at Middleton-by-Wirksworth and 36 at Derby-rd., for U.D.C. F. Collins, architect, 42, Bruton-st., Berkeley-sq., London, W.1: *A. Lee, Valley-view, Whatstandwell, nr. Derby, £52,960.

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